

FOR THE
AMSTRAD
PCW 8256-8512

8000 **PLUS**

ISSUE 11 • AUGUST 1987 • £1.50

**DOUBLE
YOUR
DRIVES**

*Step-by-step guide to fitting a
B-drive on the 8256*

Disc doctor

Emergency operations for damaged data



Desktop publishing – the best yet? • DIY horoscopes • Beat burglars with Red Boxes

What's so special about the Mac, the Atari St, The Amiga, Windows and Gem?

It's no surprise that nearly all new 16 bit 'state of the art' micros now come with a Mouse and Wimp environment (Windows, Icons, Menus and Pointers) as standard.

With the AMSTRAD PCW you already own one of the classic micros and by simply adding the AMX Mouse and Desktop you can achieve the same ease of use, freedom and versatility of much more sophisticated computers.

The AMX Mouse and compatible software – it's what you and your AMSTRAD micro have been missing.

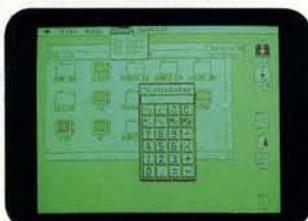


AMX MOUSE PACKAGE 3" DISC £79.95

There's not much joy in a joystick and keyboards can be all fingers and thumbs. Acclaimed by the press as 'the best input device', already over 50,000 micro users have adopted an AMX Mouse. No more complicated CP/M commands to remember, with the AMX Mouse you just point and click, even the experts find this system more efficient. Available for the Amstrad PCW 8256 & 8512.

GRAPHIC FRONT END

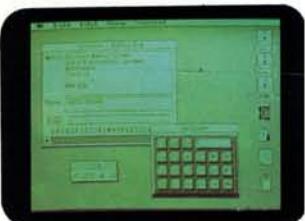
Provides an easy to use graphic based front end to your computer's disc filing system including a comprehensive set of disc management operations such as cataloging, coping, deleting, renaming and formatting. There's no need to enter a command to run programs from disc, just point the mouse at the representing icon and click the button.



TELEPHONE ADDRESS BOOK

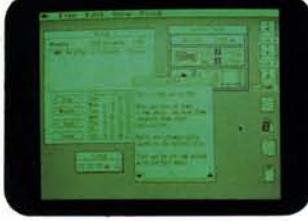
A central place to store all your important names, addresses and telephone numbers.

A database type search facility allows you to enter any part of the information such as a person's name, company name, town etc and instantly see the matching entry.



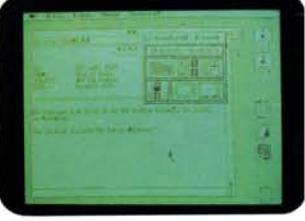
DESK DIARY

A versatile appointments diary allowing you up to seven lines to be entered for any day. Printing facilities allow yearly and monthly summaries to be produced indicating days for which an entry has been indicated.



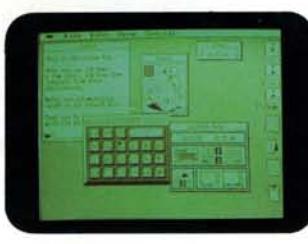
MEMO PAD

This allows anything from a quick memo to a complete multi-page report to be produced from the Desktop. Many word processing features are included such as centering, justification, cut, copy and paste etc.



DESK ACCESSORIES

The AMX Mouse package also includes a number of extra functions which are available for use at all times from the desktop. These include a jotter, alarm clock, calculator, puzzle and control panel – the type of tools found on a real desk top!



STOP PRESS... STOP PRESS...

There will be a growing list of further mouse compatible software for the Amstrad PCW from AMS and other leading software houses in the coming months including Graphic and Desktop publishing programs.

This superb product is available now from all good computer dealers or direct by cheque, Access or Visa. All prices include VAT and post and packaging.



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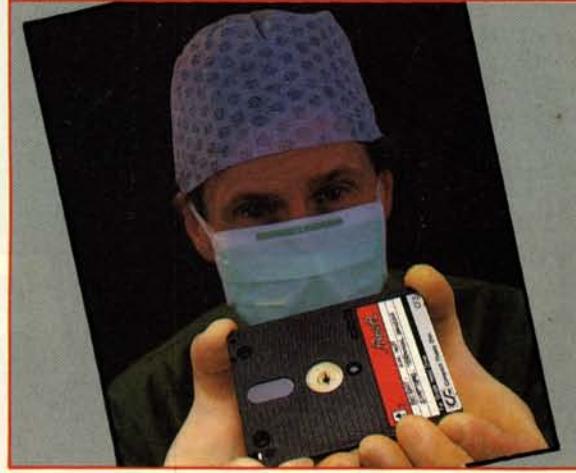
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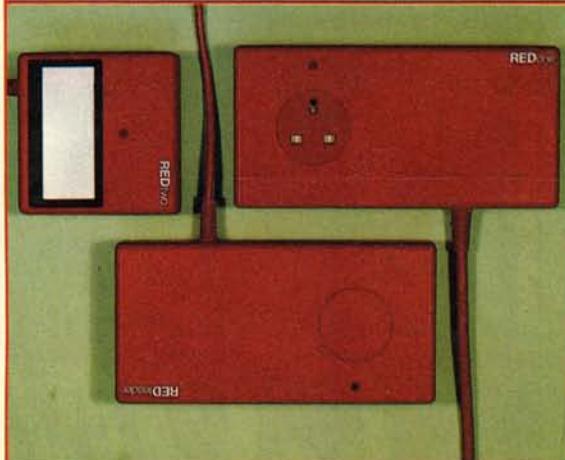
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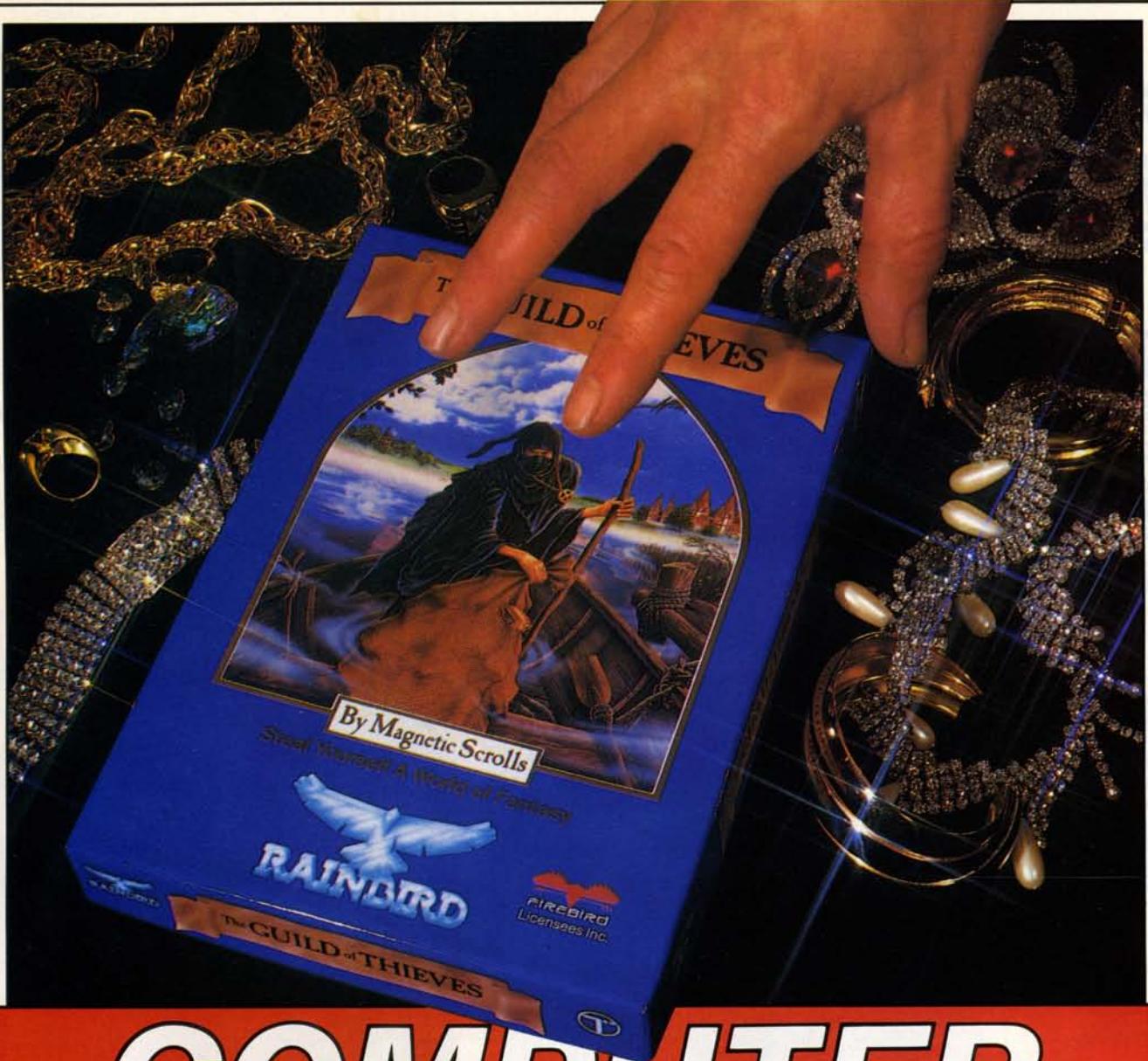
Word processing – accounts – games; it's all here

80 SPECIAL OFFERS

The very best in PCW-ware at disgustingly cheap prices

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Your thoughts for the last month in black and white



COMPUTER CRIMES.

Prepare yourself for the greatest adventure yet - The GUILD of THIEVES. The ultimate challenge for master criminals everywhere.

Your mission, to gain membership of the prestigious Guild of Thieves. But first you must successfully return from a mythical isle within Kerovnia having stolen its hidden treasures.

Now the prospect of looting and pillaging the island may seem enticing, but you'll need all the ingenuity you can muster, and of course criminal cunning as you try to unravel clue after clue and solve a wealth of devious puzzles.

With its sensational text and dazzling graphics The GUILD of THIEVES is a quest that's sure to tax the most resourceful mastermind. After all, as every Guild member knows, only crime pays.

The GUILD of THIEVES incorporates 29 remarkable scene-setting graphics* and the kind of complex intrigue and surprise that has established the Magnetic Scrolls team as worthy award winners.

The Guild of Thieves available from Rainbird Software at £24.95 (or less)... It's a steal.



The GUILD of THIEVES

Out now on ATARI ST, AMIGA, APPLE MACINTOSH, AMSTRAD PCW 8256/8512 and APPLE II (text only). Coming soon on CBM 64/128, AMSTRAD CPC 6128, ATARI 800/130 and IBM PC.

At all good retailers or direct from Rainbird Software, First Floor, 74 New Oxford Street, London WC1A 1PS. Telephone: 01-240 8838.

Screenshots stolen from the ATARI ST version.
*Some versions do not contain graphics. Please check before purchasing.



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Press gang

Public Relations people are strange creatures, and we get a fair number of weird press releases at 8000 Plus. One of last month's more notable news items was an electrifying puff about a new type of battery for motorised golf trolleys.

Another one slightly closer to home comes from Thurston-Brown Associates, makers of LocoScript aids. A lengthy letter arrived extolling the virtues of their products and announcing their appearance at a trade show. Of course they must mean July's Amstrad Show. Er, well, actually it is the 10th World Wine Fair in Bristol.

As if that wasn't enough, they were kind enough to provide a page of fulsome press clippings about their TempMate, including one quote positively embarrassing in its praise, credited as being from a 'letter to 8000 Plus'. Obviously Thurston Brown have been quaffing a few advance samples from the Wine Fair, since we've never printed such a letter. Slapped wrists, boys.

IMMORTAL INPUTS

by Brick

**Rodent Results**

"The time has come," the walrus said, "to talk of many things. Of shoes and ships and sealing wax, and AMX Mouse competition winners." OK, so now you can see why Lewis Carroll doesn't subscribe to 8000 Plus.

Be that as it may, five winners have now been chosen who will each receive an AMX mouse with Desktop software for their PCW. The competition required you to complete a crossword and pick out

**Nipping in**

Adding culture to the editorial team from this month is Robert Ainsley. After two years in Japan proving that the natives are in fact easily scrutable he bought a PCW to fabricate a CV for his job applications. He comes from a family of comedians (professional ones, that is), plays classical guitar and koto, and can drink beer in four languages.

**8000
PLUS**

The September issue of 8000 Plus will be open to the public from Thursday August 13th.

SWEET NOTHINGS

Everyone who reads a daily paper knows that summer is the silly season. Nothing really happens in the summer, and the number of FREDDIE STARR ATE MY HAMSTER stories rises dramatically.

Certainly summer is a lean time for magazines. For some unfathomable reason readers seem more interested in soaking up the sun than using computers. Still, the PCW market looks set for a boost in September as industry pundits seem to be increasingly confident that, as we reported last month, there will be a new PCW out. Even the Financial Times has joined the Amstrad-watchers, confirming the PCW9512 with daisywheel printer launch for the autumn. Far from the PCW being killed by Amstrad's PC1512 as some feared this time last year, it has thrived.

In the meantime, it's the calm before the storm. It is of course a well-known ploy for papers to sprinkle sycophantic pictures of royalty around the front pages where they would otherwise have to think of stories to write. Unfortunately the problem for us is that neither Princess Di nor Fergie owns a PCW as far as we know. This is a great pity since all our PRINCE WILLIAM IN DISC DISASTER stories (accompanied by a photo of an inconsolable Prince W. sobbing over a LocoScript manual) have had to be put on ice for the time being.

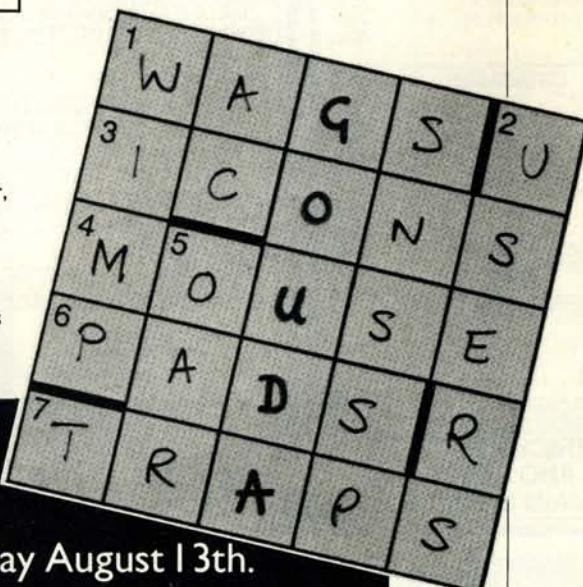
Brick Taylor

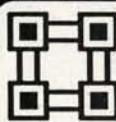
MASS improvements

In last month's labelling programs review we ended with a moan that none of them allowed you to import previously prepared data. Quick as a flash, MASS tell us they have improved their Easy Labeller to solve just this problem, so it's even better than we thought.

Missing persons

Is Mr. W.D. Atkin reading this? If so, we owe you some money for your listing printed in the June issue, but (oops) we've lost your address. Untold riches are awaiting your phone call.



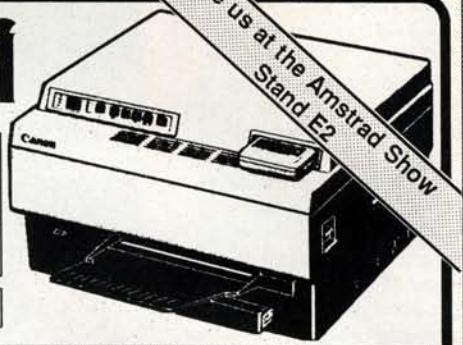


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Stand E2

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LOCOMAIL	35.95
LOCOSPELL	35.95
POCKET WORDSTAR DELUXE	54.95
POCKET WORDSTAR	37.95
NEWWORD 2	59.95
PROTEXT	59.95
PROSPELL	23.95
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SCRATCH PAD PLUS	45.95
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PCW SOFTWARE

LANGUAGES

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HISOFT PASCAL 80	35.95
HISOFT DEVpac 80	35.95
DR C BASIC COMPILER	44.95
DR PASCAL MT+	44.95
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MISC

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GERMAN MASTER	17.95
AUDIO TUTORIALS	8.95
CAXTON TOUCH & GO	19.95
IANKEY CRASH TYPING	19.95
IANKEY TWO FINGERS	19.95

LEISURE

HITCHHIKERS GUIDE	22.95
JEWELS OF DARKNESS	19.95
BATMAN	12.95
LEATHER GODDESS	22.95
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EXBASIC	11.45
'MALLARD BASIC CAN HAVE GRAPHICS WITHOUT THE PAIN' A.P.C. SEPTEMBER 1986	
IT'S BASIC (VOL. I)	7.95
'PIRATES TREASURE' 8000 PLUS FEBRUARY 1987 FIVE STAR VALUE VERDICT	
IT'S BASIC (VOL. II)	7.95
'EXCELLENT VALUE FOR MONEY' E. DORAN APRIL 1987	
COMP-U-PRINT	28.75
'EXCELLENT ADD-ON FOR THE PCW' POPULAR COMPUTING WEEKLY MAY 1987	

LOCA-PRINTER (SOFTWARE)	29.95
LOCA-PRINTER (INTERFACE)	21.95
LOCA-PRINTER SOFT. & INTERFACE	49.95

'THE COMBINATION OF BEING ABLE TO USE
OTHER PRINTERS WITH A CHEAP INTER-
FACE, TOGETHER WITH EASY TRANSFER
BETWEEN LOCOSCRIPT & CP/M, MAY PROVE
IRRESISTIBLE TO MANY' PUTTING YOUR
AMSTRAD TO WORK JUNE 1987

PCW HARDWARE

COMPUTERS

* PCW 8256 WORD PROCESSOR	(373.00)	428.95
* PCW 8512 WORD PROCESSOR	(469.00)	539.35
* ADD 8.00 DELIVERY.		

UPGRADES AND EXTRAS

PCW SHEET FEEDER	12.85
PCW SCREEN FILTER	17.85
PCW MEMORY UPGRADE KIT	25.30
PCW 3" 2ND DISK DRIVE	138.00
CPS8256 - RS232 INTERFACE	54.95
PCW DUST COVER (3 PIECE)	9.15

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ELECTRIC STUDIO MOUSE	113.95
ADVANCE MEM. SYS. MOUSE	73.95
KEMPSTON MOUSE	65.95
KEMPSTON MOUSE (WRITE HAND MAN)	85.95
KEMPSTON MOUSE (FLEET ST. ED. +)	115.95

PCW PHONE HOME

AMSTRAD MODEM	89.95
SAGE CHIT CHAT	184.95
(VIEWDATA OR E-MAIL + MODEM)	
SAGE CHIT CHAT COMBO (VIEWDATA & E-MAIL + MODEM)	215.95

DISKS (NEW LOW PRICE!)

* CF2 3" DISKS 1-4 (EACH)	2.99
* CF2 3" DISKS 5-9 (EACH)	2.95
* CF2 3" DISKS 10+ (EACH)	2.85
* ADD 1.00 DELIVERY.	

PRINTERS (TOO MANY TO LIST HERE!)

* DMP 2000 PRINTER	(135.00)	155.25
* DMP 3000 PRINTER	(165.00)	189.75
* DMP 4000 PRINTER	(345.00)	396.75

PRINTER RIBBONS

* PCW MULTI-STRIKE RIBBON	6.84
* PCW ORDINARY RIBBON	4.79
* DMP 2000/3000	5.75
* DMP 4000	7.76
* MINIMUM ORDER TWO	

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'NABITCHI COMPUTING'

TO PROTEXT: A SON

Arnor have hotched up competition in the word processing market by launching a cut-down cut-price version of their PCW Protext called Pocket Protext.

It has most of the features of its £79.95 parent except for the spell-checker and mail merge (built in the dearer version), but costs only £39.95. And significantly it went on sale at virtually the same time as Locomotive at last managed to get their LocoScript 2 out to customers.

Arnor claim it has already met with some success with 350 copies being sent out on the first day it was on sale. At the reduced price it must be considered a serious competitor for the new version of LocoScript. Although many users will prefer to stay in the familiar atmosphere of LocoScript some may well be tempted away by the increased speed and features such as the ability to switch between two files while editing and a word counter.

This launch is part of a new aggressive price cutting policy that has seen the company slash the price of much of their PCW software by up to 40%, including their C programming language and Maxam II machine code development kit. The price of both of these was cut from £79.95 to £49.95 within weeks of launch.

Protext PCW users might also be interested to hear that as a side effect of the development of Pocket Protext there is now a



second edition of the Protext manual complete with an index. However, before you get too excited, the new manual costs £15 to existing users of Protext, and you have to send your old manual back when exchanging. If you want to keep the old manual, buying the new one is regarded as a licensing deal which allows you to use another copy of the program and will set you back £25.

With all this activity it is difficult to understand how they found time to make their recent move from their old home in Croydon to bigger premises in Peterborough: send Arnor a moving in card to Protext House, Wainman Road, Peterborough – or phone 0733 239011.

HIGH SPEED - LOW COST

Micro Peripherals of Basingstoke have launched a matrix printer they claim is "probably the lowest cost highest speed printer ever offered." The Micro-P MP480 has a print speed of 252 lines per minute with a line speed of 480 characters per second in

draft mode – all for £369 + VAT.

Even in Near Letter Quality it has a throughput of 80 cps. It has Epson compatibility and is claimed to have a noise level of 60 decibels (is that good or bad?) Phone Micro Peripherals on 0256 461570.



▲ The Micro P MP480 claimed to be the lowest cost, highest speed printer.

Calling all hackers!

Despite being touted primarily as a wordprocessor, programmers know that the PCW is a powerful and serious computer in its own right. To this end, specialist software houses Arnor and Hisoft have both weighed in recently with new tools for the programmer.

Maxam II is Arnor's machine code development kit for the PCWs, which has recently been reduced from £79.95 to £49.95. It incorporates what is described as powerful Z80 macro assembler, and the program editor is essentially a stripped down Protext. To help you debug your machine code is a monitor which supports single stepping and other standard features.

Hisoft aim to give Arnor a run for their money with Devpac 80

version 2 – a direct competitor to Maxam. This boasts a full assembler and editor, a symbolic debugger and at £39.95 a price tag £10 below Maxam's.

Finally, for programmers who spurn such sordid low-level languages, Arnor have also released a C compiler. Like Maxam this has recently been reduced from £79.95 to £49.95. C is a very widely used programming language, rapidly gaining popularity on all sizes of computer, and Arnor's compiler reckons it covers the full language definition (the Kernighan-Ritchie standard), with an integrated program editor in the price.

Contacts are: Hisoft on 0525 718181, Arnor on 0733 239011.



SHAKING THE FAMILY TREE

Judging by the 8000 Plus postbag, tracing family roots is a popular pastime with our readers. Until now, PCW-owning genealogists have had to make do with ordinary commercial databases and word processors, devising clever ways to print family trees with combinations of condensed text and weird symbols.

But that could all change. Kintech Computers of Cornwall (0208 850176) have tied up the rights to sell PAS – a Personal Ancestral System. This is claimed to be a sophisticated genealogy tool which is well established on other microcomputers such as IBM PCs.

PAS was originally developed by the Mormon Church, who place great emphasis on tracing their ancestry and maintaining a massive central repository of genealogy data. A version of the program was developed for Kaypro microcomputers which have now become largely obsolete, and Kintech have negotiated the rights to convert it to run on PCWs.



"HEY - I'VE FOUND OUT I'M RELATED TO ALAN SUGAR!"

Costing £59 for four discs-worth of program, part of the software includes a complete communications software suite to help you send and receive records around the world by phone.

NEWS PLUS

Less cash for Cash Book

Latest in a line of low cost software for the PCW is Cash Book from Double-Jay of Redruth, Cornwall who have launched a simple Journal/ Analysis system for only £12.95.

It offers financial forecasting, budgeting and income/expenditure control with screen displays and printer dumps in standard bank statement format. The working file, which can take 300 entries, is "self perpetuating" (old entries are automatically purged at intervals to make space for new ones) and the company claim it can produce "an infinite variety of abstractions and analyses" of data. All this and a 17 page manual. For details phone 0209 217552.

Local shows

A couple of local computer shows are being planned for this autumn. On Saturday 12th September Brighton's Dome Complex will come alive with the exciting atmosphere of Southern Computer Fair 1987, run by the Brighton and Hove Computer Group and the Sussex Microcomputer Group. Would-be exhibitors and others should write to Colin Morley, S.C.F., 10 Croft Avenue, Southwick, Brighton BN4 4AB.

In October the spotlight swings to the West Country when Westech '87 gets under way in Bristol. The show organised by Markethill Ltd will run in the Bristol Exhibition Centre for three days starting on 20th October. Enquiries to 0272 650908.

Bridge building

If all the new space zap-'em-up games leave you cold, you might be interested in a slightly more traditional game from CP Software. What will you bid for a quiet evening's bridge with Bridge Player 2000? This is very handy for someone who doesn't have three friends that can play bridge and will be well worth £19.95 to those real fanatics who can't go a few hours with their fix of a rubber or two.

Bridge Player 2000 comes with a Tutor program which has 20 set hands with detailed explanations and advice on how to play each hand. However a serious omission is that there is no post mortem at the end when you can blame your partner for all the mistakes. That's the trouble with computers – too clever by half. Phone 099382 3463 for details.



Built by builders for builders

Who better to write software for builders a builder. This is the thinking behind the McGregor Estimating System, a builders' estimating program written by McGregor Software (also known as Drumburn Builders) of Dumfries.

The company reckon that at £99 the program represents a considerable saving over other programs of this type. They say "Whether we make a profit

remains to be seen. In the meantime we like the idea of providing a sub £100 package that performs in essence the same function as items costing between 10 and 25 times as much."

They point out that there are no fancy pie charts or graphs but a concentration on the sort of things they found most helpful themselves – a "no-nonsense facility." The company can be contacted at 0387 88612.

Software over the seas



The AMX III mouse – a new Swiss import

PCW software has gone international with several British firms making inroads into the Continent. Mirrorsoft have just tied up an agreement with software publishers FIL (France Image Logiciel) for French versions of the whole range of their products. Arnor have also moved into the German market with Prowort, a German version of Protect (they can't use the name Protect because another company already use it there) complete with German spell-checker.

In the other direction AMS have placed an order for their new AMX mark III mouse with a Swiss firm. This they claim is a great step forward for mousedom with high resolution 250 dots per inch movement and what the company call "superior ball technology" to ensure that contact between the mouse and the surface is constant. They speak glowingly of a new stream-lined shape that fits comfortably into the hand – say no more.

The Horror from the Green Screen

Games firm Infocom have come up with two new games that bring ghostly groans and galactic gooks to your PCW's screen.

The Lurking Horror, claimed to be the first interactive horror story, has all the elements needed of a classic chiller: raging blizzards and howling winds and slimy passageways in a hideous underground world. By the miracle of computer technology you are transformed into a student at the George Underwood-Edwards Institute of Technology (and to think they said at school that you'd never come to anything). Mind you all this education doesn't seem to make you clever enough to avoid the decrepit underground tunnels filled with unspeakable horrors under the building.

If you want to be scared by your friendly old PCW *The Lurking Horror* will set you back £24.95. The advantage is that if you get really scared you can just switch off. But what happens one dark cold night with a gale howling against your window when you try and switch off and find you can't...?

You could try to get Floyd the robot to help you – he is one of the leading characters in Infocom's other recent release *Stationfall* – surely the first computer game to bring together an ostrich and an "Arcurian balloon creature".

If you have played *Stationfall* you will already be on first name terms with this "mischievous, playful" android (Infocom's blurb begins to sound suspiciously like the Sirius Cybernetics Corporation's pitch

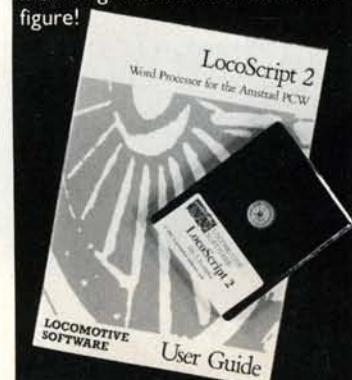
for Marvin the Paranoid Android). Although be warned – in your latest mission Floyd begins to act strangely when you arrive on a space station which is deserted – except for the ostrich and the balloon creature of course – and where all the machinery has mysteriously broken down.

Stationfall is the creation of Steve Meretzky, the man who brought the world *Leather Goddesses of Phobos* which must be significant. This time for your £24.95 you get an official sew-on Stellar Patrol patch. That should impress everyone down the pub on Saturday night. If you are interested in either game contact Infocom's UK distributors, Activision, on 01-431 1101.

LOCOSCRIPT 2 IN THE FLESH

June 24th 1986 – a day to remember in the annals of world events. A magical package containing the production version of LocoScript 2 dropped on the 8000 Plus doormat.

Elderly readers may remember that the lead story in our very first issue (on sale in September 1986) was about LocoScript 2. Well, nine months gestation seems a natural figure!



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Of course, Protex is still available as the definitive text management package at £79.95. But for those of you who simply want a brilliant word processor, there's Pocket Protex.

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ARMOR

GIVE YOUR PCW EXTRA DRIVE

Ken Lenton-Smith goes through a step-by-step guide to fitting a B drive to your 8256

Those of you who upgraded your 8256's M drive following our feature in the June issue may be feeling brave enough to tackle the big one – adding a second floppy disc drive. Experience of the memory upgrade will stand you in good stead and will make your ex-8256 a full 8512.

If you've used an 8256 for some time, you won't need telling how useful a second disc drive would be. In CP/M it means you can run programs without all that tedious disc swapping, and in LocoScript it means you can fit four times as many words onto a disc.

As the PCW was originally designed to take a second drive, installing one is not really complicated. However it is important to remember that doing this yourself will invalidate your guarantee from Amstrad (except if Dictaphone do it) so it might be worthwhile waiting until your PCW is a full 12 months old before you tackle it. And even if you feel totally confident after reading this article be sure to read the instructions from the suppliers carefully before you start.

All that is involved is preparing the front panel opening, screwing the drive into place and connecting existing plugs and sockets. To make these tasks simple, the 8256 is already fitted with connectors and mounting pillars for this purpose.

For your own protection, the PCW must be totally disconnected from the mains supply and preferably should not have been used for some hours before taking the back off the console.

The job calls for the usual care needed in craft work but try to avoid touching the computer's printed circuit board alongside the drives, don't pull or strain any cables and keep clear of the end of the cathode ray tube. Be sure to remove all plastic dust and fragments from the interior of the console before replacing the back.

Telling you where to put it

Fitting the unit is neither difficult nor risky if the instructions supplied are followed carefully. The unit may be delivered with a cardboard 'disc' inserted, which should not be removed until installation has been completed. This is just there to protect the drive mechanism from being shaken about in transit.

Give me the tools

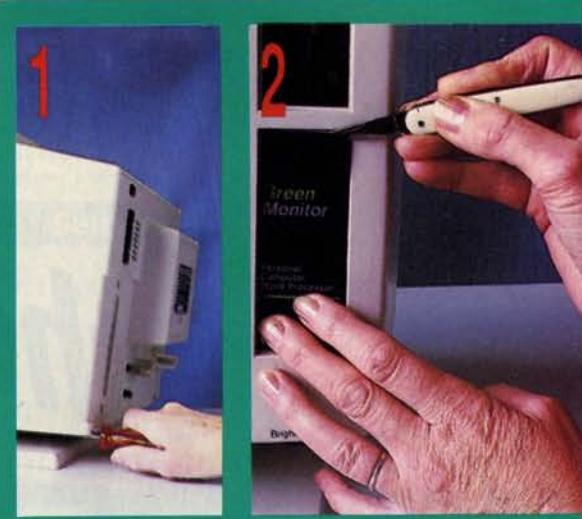
You will need a few tools to add the B drive: long and short shafted crosspoint screwdrivers, padsaw, penknife, small file and a lump of Blu Tack. A steady hand is also useful.

LocoScript users

LocoScript also recognises the presence of the B drive, so giving you the benefit of all that extra document storage space. With nothing in the drive, the Disc Management screen will show 'empty' rather than 'not fitted'. You can move files back and forward between drives in the same way that you move files to M drive.

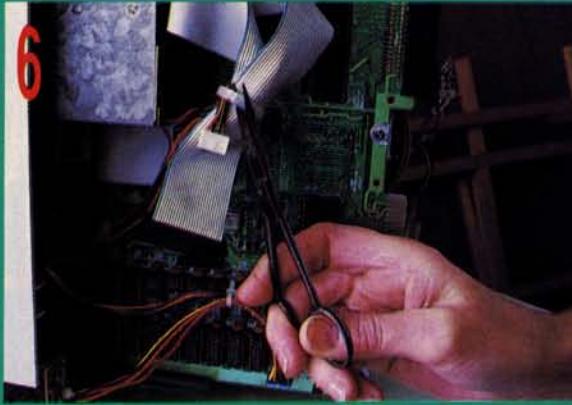
One complication with LocoScript is that with a totally blank disc in B, none

of the groups are shown on the screen! This means that you apparently can't put the cursor into any of the B groups. What you have to do is use [SHIFT] and the cursor keys to move the highlight bar in the groups section into the B drive. Although the main cursor will seem to disappear, if you Create a new file, the group will open up normally on the screen.



Dismantling: Disconnect the keyboard and printer from the console and turn its back towards you. Take out the two small screws by the expansion slot and the larger screws at each corner of the case. Remove the back of the console by sliding it towards you, being careful to avoid damaging the edge connector that sticks out through the expansion slot.

Inside the front of the console you will see mounting pillars for the second drive (below the existing drive mechanism) and between them a blanking plate. Hanging behind the A drive is a bunch of ribbon cables strapped together. Two of these have end connectors ready for fitting to the B drive.

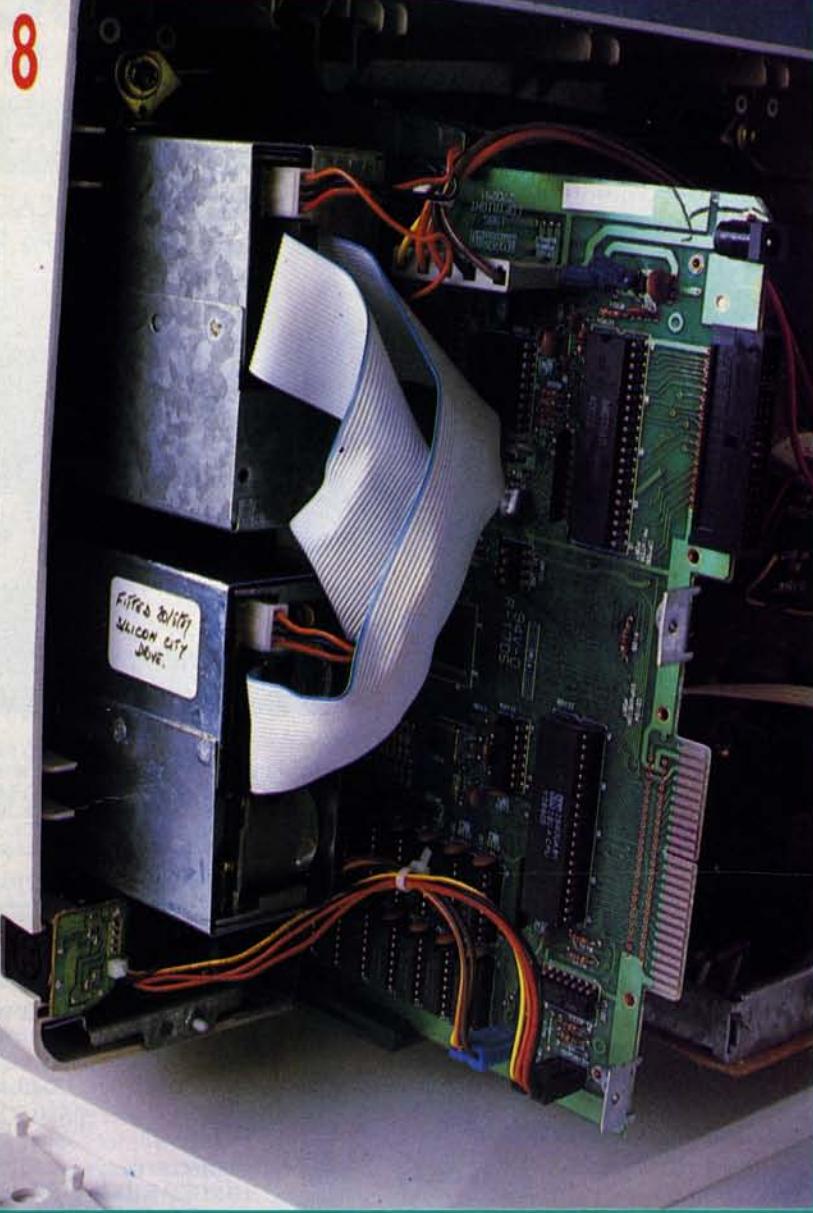


The logo: The 'Green Monitor' logo on the front of the PCW is a self-adhesive aluminium sheet. Carefully lift one corner with the penknife and peel it off completely. Underneath is a blanking plate, cast into the console body and held by six small 'spider' legs.

Blanking plate: Now for the craft work! The blanking plate must be removed from the console by carefully sawing through each of the legs. The best tool for this purpose is a short piece of hacksaw blade fitted into a padsaw handle. Place a U-shaped piece of card inside the machine, below the existing drive, ready to collect the sawdust.

Cut through each supporting leg until the blanking plate can be removed. The stumps of the legs will be rough at this stage and probably still too long to allow you to put the new drive in place so use your file to clean them up. Remove the card containing the sawdust and use a piece of pointed piece of Blu Tack to pick up any remaining dust from the interior.

Insert the new drive unit at the rear of the console to check that it will pass through the space in the front panel without getting tangled with the sawn leg stumps. These may need further attention with the file to make sure that the drive can fit on to its pillars without damage.



1 You will need the long shafted screwdriver to unscrew the lower corner screws when you remove the back of the console.

2 Use a penknife to lift one corner of the self-adhesive 'Green Monitor' logo and then peel it off to expose the blanking plate.

3 It is important to keep the saw blade at right angles to the face panel when sawing through the six 'spider legs' which hold the blanking plate to the console body.

4 The stumps of the sawn off legs will probably have to be filed down to allow the drive to fit into the space. Check that there is room before you try to fit the drive in place.

5 The drive fits into the space from the rear.

6 All the ribbon cables and fittings needed are already there tied up by a plastic strap. Carefully cut though the strap.

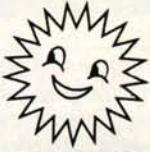
7 You will need the long shafted screwdriver to mount the drive in place at last.

8 The best way to ensure you have the orientation and colours of the cables right is to compare them with those in the upper drive. The cable connectors are already there waiting to be plugged into the new drive.



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Now carefully cut through the strap holding the ribbon cables together to loosen the wiring that will be required for the new drive.

Mounting the drive: It may be helpful first to insert the self-tapping screws into the pillars and remove them again so that they cut their threads before the drive is actually fitted. Mount the drive unit on to its pillars using a long-shafted crosspoint screwdriver. Keep your knuckles and screwdriver well clear of the computer's printed circuit board alongside.

Connecting: Plug the two connectors on to the B drive ensuring that they are orientated in the same way as to those on the A drive mechanism above. Note that the blue stripe on the wide ribbon cable must be at the top.

Assembling: Replace the back of the console, making sure that the edge connector is correctly fed through its slot, and replace the screws. After re-connecting the keyboard and printer, the job is complete and the new drive ready for testing.

The Ball and end all

To be able to use your B drive, you will need to have version 1.2 or later of CP/M (the version number is shown on the screen when CP/M starts up). If you bought your PCW in 1986 or later, there shouldn't be any trouble, but Amstrad will exchange earlier versions free of charge anyway. Just return your master disc to them and explain. When CP/M starts (which can only be done with the disc in the A drive), the PCW should sense that the new drive is in place and its initial display should include the words '2 disc drives, 368K drive M:' (assuming you have expanded your M drive memory too).

Up till now Part III of the User Guide may not have been of interest but it is now worth reading as everything will begin to make sense.

You are now in a position to try out your new drive. The B drive uses exactly the same discs as the A-drive – CF-2 floppy discs. When you use DISCKIT you decide whether the disc will be an A or a B disc, but until then there is no difference. Until September 1986, Amstrad used to sell special discs for the B drive called CF-2DD discs, which cost more.

Some suppliers still have stocks of these higher priced discs and may try to tell you that you ought to buy the special ones. This is not true – buy the cheaper CF-2 discs and save some money. Amstrad now officially say that these are suitable for the B drive.

To try out your B drive you need a suitably formatted disc. Run DISCKIT, insert a disc in the B drive with side 1 nearest the screen, and follow the commands to 'format a CF2DD disc in B'. DISCKIT's 'format' option offers you the choice of drives, and will format both sides of the B disc (tracks 0 to 159) in one operation.

Remember that B drive discs are formatted differently in DISCKIT from A drive discs. The A drive discs are 'single density' while those for the B drive are 'double density'. The B drive is also 'double sided' meaning that the drive mechanism reads both sides of the disc without you needing to turn it over. Thus a B disc can hold four times as much information as one side of an A disc.

However, because the B drive is double sided, you can't turn the disc over and read 'the other side' of the disc like you do with A discs. Discs should be labelled so that the formatting is quite clear. If one side of the label on a B drive disc is blanked off, it will remind you which side to present to the drive and that it can only be used in the lower drive. If you present the wrong side to the drive it will give you an 'Address Mark Missing' error message. It is vitally important never to format the 'second side' of your B drive disc as this will wipe all the information already on the disc.

The suppliers

Before ordering your drive you may want to make sure if you want one of the normal FD-2 drives from Amstrad or the new version from Matsushita (National Panasonic). The older version gives you a product exactly the same as the 8512 but the newer one direct from Matsushita (who also manufactured the old ones) has an aluminium casing which improves the quality of the magnetic shielding and should help avoid the rare disc failures sometimes experienced in ordinary B drives. It is worth checking availability especially for FD-2 drives which are getting difficult to obtain. All prices include VAT, post and packaging and the rating is given on the quality of instructions where possible.

Silicon City (0252 879005): £135.00
Matsushita
Instructions ■■■■□

Nabitchi (051 708 8775): £138.00
FD-2 now, Matsushita soon
Instructions ■■■■□

Alfa Electronics (01-390 2588): £125.00
Matsushita
Instructions ■■■□□

Copy Comm (0334 56309): £149.95
FD-2
(Instructions not seen)

Dictaphone (0926 29124): £182.85
Price includes Amstrad-approved fitting on your premises.

Using your new powers

With the CP/M master disc in the A drive and newly formatted disc in the drive B, typing SHOW B : produces the message 'B: space: 706k'. This vast amount of space can be filled with data or text files and programs. You can load programs from the B drive, although your start of day disc must always be used in the A drive.

When you start CP/M up, you will see the usual A> prompt. If you now type B : [RETURN], you will see the prompt change to B>. This means that the PCW expects all your files to be on B from now on. You can get back to A by typing A : [RETURN]. Alternatively, no matter what your current disc is you can run a program on another disc by preceding the command with the disc letter. For instance, if you were logged onto drive B with your CP/M master disc in A, the command

A : DISCKIT [RETURN]

would run DISCKIT.

Having said that you can't mix the two types of disc intended for the different drives, that isn't quite true. You can read A-drive discs in the B drive. You can't write to them using the B drive, and you can't ever use B-discs in the A drive. This does mean you can quickly copy files from one A-disc to another: put the one to copy from into the B drive, and the one to copy to into the A drive, and give the command

PIP A := B : (whatever filename you want)

To copy files from one B-disc to another, you will have to use the M drive as a temporary store.

EXIT

Spaced out

The B drive is subtly different from the A drive, because of its extra space. The smallest allowed file size is 2k compared to 1k on A-type discs, and you are allowed to store 256 files per disc compared to 64 on A-type discs.

What size do you want?

There are several possibilities for those considering another disc drive. As well as the standard 3" drive you could have external 3½" or 5¼" disc systems or hard disc units.

One factor to consider is the cost of the discs involved. An external 5¼" drive might be the best choice for large volume business use, especially if you need to read IBM PC discs. However, one of the PCW's best selling points is its compact nature and minimum of interconnecting cables needed – a feature not lost when you fit an internal B drive.

The capacity of the B drive disc, regarded by the computer as a one-sided disc of 706K, is probably sufficient for all but the heaviest users. One data disc could handle almost 200 pages of A4 in LocoScript for instance.

Now that Amstrad tells us that we can use CF-2 discs for double density storage in the B drive, 3" discs are more competitive than they were, especially as their price has fallen over the past year.

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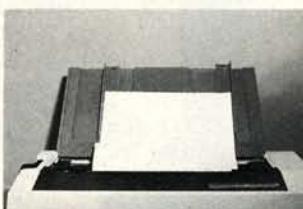


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You must have read the horoscope section in the newspaper and wondered how all the people born under Virgo (that's a twelfth of the world's population you know) were going to meet a tall dark stranger and get a message regarding money. Seems unlikely? Well the truth is it seems even more unlikely to astrologers.

In fact astrology is a vastly complicated business which has to take into account dozens of different planetary influences – the sort of set up just ideal to make good use of a computer. And the software companies serving this section of the market are producing increasingly sophisticated products to take the hard work out of star gazing.

The complications are immense. When someone says they are a Virgo they really mean that the Sun was in the sign of Virgo when they were born. But where was the Moon, Mercury, Venus, Mars or Jupiter when we were born? Probably more important than the Sun sign is the sign on the horizon at the moment of birth – the *Ascendant* – or the sign directly overhead – the *Mid Heaven*.

For a true astrological reading the position of all of ten planets should be taken into account. An astrologer doesn't want to know what month you were born, he wants to know the date, time and place of birth. A half hour or a few degrees of latitude or longitude can make a considerable difference to the location of your Ascendant. To do any predictions he has to compare this complicated chart with the position of the planets in the future. That's a lot of detail to take into consideration.

Working all this out manually is not easy. In the old days it meant poring over an Ephemeris (a book listing the position of all the planets) and hours of mind numbing arithmetic. So it was pretty obvious that when personal computers came along it was like a gift from the heavens for the serious Astrologer.

When all these figures are worked out there is still the more difficult task of interpreting what all the influences mean. This seems to be where the art takes over from the science; if the computer can take out the donkey work that must leave more energy for the creative task of interpretation.

Looking to the future

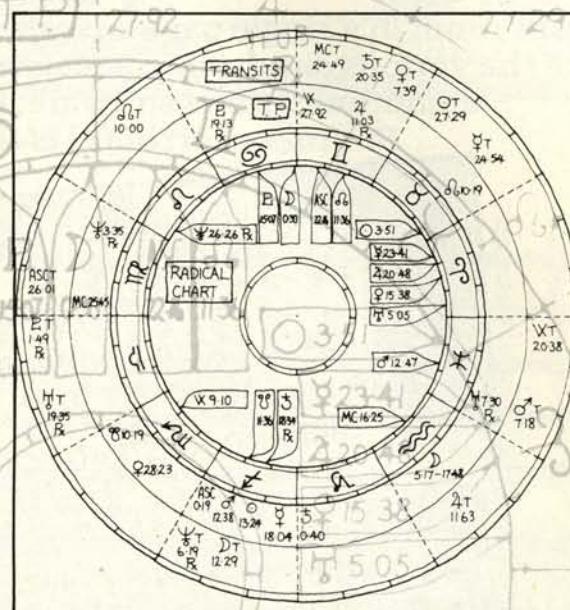
How much you want to spend on an Astrology program will obviously depend on what you want out of it. Someone with no more than an open mind and £15.50 could do worse than investing in a Starter Program from Astrocalc. This company seems to do everything for the mystically minded from hand-writing analysers to computerised *I Ching*, the Chinese method of prediction, and of course the ubiquitous biorhythm program. Whether you accept that there is any worth in these must be a very personal choice (Carl Jung spent most of his life consulting the *I Ching*).

Astrocalc's starter program will save hours of hard work in producing a *Natal Chart*. In seconds you have a list of the position of the planets in the correct sign of the Zodiac along with the Ascendant and Mid Heaven, and more importantly from a time saving point of view you have all the aspects. To help understand these better it is normal to display them in the traditional wheel – a circle divided into 12 sections, one for each sign. This graphic representation is not yet available for the PCW from Astrocalc although an extra program to do this is on its way.

Once this is completed you have the infinitely more taxing problem of interpreting Astrocalc's starter

SINE ARDUA AD ASTRA

"To the stars without hard work" – Alec Rae sees the future for astrologers.



program does not attempt to interpret the information but gives you a tutorial on how you would interpret a natal chart for yourself.

This is done through a series of key words ("Inventive" or "Adventurous") which describe the effects of the planets and the attributes of the various signs. A simple randomising program allows you to test your memory on these although the real value of this side of the program would seem to be more as a way to quickly jog your memory rather than a serious attempt to teach. It is also true to say that you would really need to go to some other reference books to feel confident with interpretation, but what do you expect for £15.50...

There are various more sophisticated extras to the basic Astrocalc program up to Chartmaster (an extra £60) which prints out the suitable "key words" for the chart and allows you to adapt the interpretation system to suit your own system – again more aimed at the professional astrologer.

Perhaps it is all nonsense but you'll never know for sure until you try it for yourself.

Star jargon

Natal chart: the position of all the planets at the moment of birth usually displayed in the traditional "wheel".

Signs of the Zodiac: the heavens are divided into 12 sections (Aries, Taurus etc.) When a planet enters a particular sign it is thought to be influenced by it.

Aspects: the relationship between the position planets worked out by the angles between them.

For real pros

If you want something slightly more than Astrocalc, Electric Ephemeris offer a comprehensive package which claims to do virtually everything for you down to printing out a chart wheel. At £82 it is aimed largely at the professional Astrologer. Unfortunately they could not provide a sample in time for our review.

PLUSES

- ⊕ Takes the sweat out of creating natal charts
- ⊕ Real astrological tool – not a fake horoscope program

MINUSES

- ⊖ No graphical representation of charts
- ⊖ Tutorial section is rather pointless

RANGE OF FEATURES
EASE OF USE



PERFORMANCE
DOCUMENTATION



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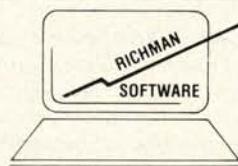


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OPEN HEART SURGERY FOR DISCS

The data on your discs could be worth more than your PCW. Do you know what to do if something goes wrong?



When you buy a program, or read a book on the PCW, the first advice you see is, "keep backups of your discs". Everybody knows this, but alarmingly few people actually do it. "Disc faults are so rare, they argue, "it'll never happen to me." In many ways the master discs of programs are the least of your worries. You can usually get a new disc from the supplier for a modest sum. The real problem is the data you have created.

Floppy discs are fairly reliable things but they can and do go wrong for no apparent reason. The 8000 Plus mailbag each month is full of tales of woe about how there was an unexpected power cut, how the dog ran amok in the disc box or how a rogue banana split fell into the disc drive, resulting in a destroyed disc. What would you do if, after spending several months working on your blockbuster novel, you discovered one day that LocoScript could not read your discs any more?

The answer is usually to panic, scream, have a large drink and start retying. After all, those fateful words on the bottom line of the screen 'A: track 0 sector 1 missing address mark - Retry, Ignore or Cancel?' usually set the death knell sounding.

But a corrupted disc isn't necessarily the end of all the data on it. In many ways floppy discs are like LP records; if you scratch a record, one particular track may be wrecked, but you can still play the others perfectly well. You can often copy surviving parts and use them even though the original is defunct. There are several utility programs around to help you do the same kind of thing with a damaged floppy disc. These range from unerasing accidentally ERAsed files (very easy) to treating a neurotic disc (very hard).

Hex numbering

If you get to grips with a disc editor, you will see all the bytes of a file listed out. Bytes can have any value between 0 and 255, but this is always expressed in hexadecimal since it is more compact.

Decimal has ten digits, 0 to 9, but hexadecimal uses sixteen, 0 to 9 and A to F, corresponding to 10 to 15 respectively. So to count in 'hex' you go 1,2,3... 7,8,9,A,B,C,D,E,F,10,11,12...

18,19,1A,1B... 1E,1F,20,21 and so on. From 9F you go to A0, and finally you end up at FF.

The first digit of a hex number is the number of 16s in it, and the second the number of units. So 20 in hex is $(2 \times 16) + 0 = 32$. FF is $(15 \times 16) + 15 = 255$. This means that all the numbers in a byte can be written down using two hex digits rather than 3 decimal ones.

Behind the scenes
If you've read ahead about how the disc directory is organised, you can see how the UNERA command works. Erasing a file merely changes the very first byte of a directory entry from 00 to E5, and unerasing undoes that change.

Treating a disc means getting your hands dirty and using one of the more complex utilities to piece what you can back together. But don't be frightened – it is just like doing a jigsaw. In fact, it is even easier than a jigsaw because there are clearly defined rules telling you which piece goes where.

Unerasing files

CP/M's ERA command thoughtfully asks you 'if you are sure' when you ask to delete all the files on a disc with ERA **. The snag is that answering 'yes' to this prompt becomes an automatic reaction after a time, and many

```
A>dir
A: UNERA COM : VITAL DAT
A>era vital.dat
A>dir
A: UNERA COM
A>unera vital.dat
UNERA 1.1 (C) HiSoft 1987

A>dir
A: UNERA COM : VITAL DAT
A>
```

▲ Unerasing a file

the person who has gaily erased a whole disc by mistake.

Unerasing a file is a very simple operation. The Knife and the Compleat Utilities disc both provide ordinary CP/M commands to unerase files without any specialist knowledge. Erasing a file doesn't actually do anything to the file's contents on the disc – it merely sets an indicator saying to CP/M that it can re-use the space when it needs to. The command

UNERA FRED.COM
will undo the effect of
ERA FRED.COM

However, you must not write any new files to the disc after the ERA command, or you may find that CP/M has re-used the disc space and your 'unerased' file is full of another file's data.

Disc Mate can also unerase files, although it is a menu-driven program with a whole range of options rather than a simple one-off command.

Pre-operative therapy

You need to know how a disc stores its files before you can get your scalpel out to tackle more complex faults. LocoScript documents and CP/M files are exactly the same things – all that follows applies to both.

Think of how an LP record stores its 'data' – the music. A needle moves over a groove on which the sounds are stored. The record is arranged in tracks, some near the centre and some near the outside.

Floppy discs have tracks too. Discs used in the A-drive have 40 tracks each side arranged concentrically (unlike an LP's spiral) and numbered 0 to 39. B-discs have 160 tracks in total. The read/write head can be positioned at any of the tracks and when you hear the disc drive clunking away as you use it, what you are hearing is a motor moving the disc head from one track to the next.

Each track holds a fairly large amount of data, so to make things more manageable it is split into 9 sectors numbered 1 to 9. So you can describe a disc in terms of its tracks and sectors. It starts at track 0 sector 1, and ends at track 39 sector 9 (track 159 sector 9 for a B disc). Each sector holds 512 bytes (half a k), so you can work out that an A-type disc with 40 tracks holds $40 \times 9 \times \frac{1}{2} = 180k$ of data (B discs hold 720k).

180k? But A-discs only hold 173k, you might think. Well, this is because 7k is taken up storing system

HISOFT

Presents

**FEATURE**

information that CP/M needs to use the disc. By far the most important part of this is the disc *directory*.

The whole of the first track (track zero) is reserved for system use. The first 9 bytes on track 0 sector 1 tell CP/M how the disc is to be read – effectively whether it is for an A-drive or a B-drive. The directory which starts on track 1 sector 1 is like the contents list of a book – it tells CP/M what each file is called and where to find it.

Directory enquiries

Understanding how the directory controls what is on the disc is the key to finding parts of damaged files and repairing them.

Although the disc is split into tracks and sectors, CP/M stores files in *blocks*. On an A-disc, each block is 1k long, and CP/M thinks of the disc as being split into blocks numbered 1,2,3,4 and so on. Files must take up a whole number of blocks, which is why even the smallest files take up 1k on a disc. B-discs use 2k blocks.

If you have a totally blank disc, when you store a file CP/M will put its contents on to blocks 1,2,3... in that order. When you erase a file, CP/M knows it can re-use the blocks that were freed up. So, as you fill a disc up and erase files, you get small pools of available blocks which are scattered over the disc. CP/M fills these as best it can. But that means that the contents of a file might not be in continuous blocks.

As an example, here is a typical part of a directory. This is in fact a description of the file SETDEF.COM on the CP/M master disc (an A-type disc):

```
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20 .SETDEF COM...
98 91 92 93 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
```

Each file's directory entry takes up 32 bytes. The entries are all hexadecimal (see the box), with the text equivalent on the right. All low level computer operations such as this use hex numbering, since this is closer to how the computer itself thinks than ordinary numbers are.

If the first byte is 00, the file is currently in use; E5 means it has been deleted. If you look at a LocoScript disc's directory (which uses exactly the same conventions as CP/M), you will also see values 01 to 0F in this first byte. 00 to 07 means the file is in groups 0 to 7 respectively, 08 to 0F means the file is a limbo file in groups 0 to 7 again.

Next comes the file name. This is 11 characters long, since a file name is eight characters followed by the three for the extension. The next three bytes will usually be zero, and the final byte is the file size divided by 128 – for SETDEF, the size of 20 (ie. 32 in decimal) means a file size of 4096 bytes, or 4k.

The bottom line is the list of block numbers that the file is stored in. SETDEF.COM uses block numbers 90, 91, 92 and 93 on this particular disc. For a B-type disc, the first line would be just the same, but blocks are

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PLUSES

- Can unerase files on drive A
- Range of other handy programs duplicating CP/M's DIR, PIP etc but simpler and taking up less disc space

MINUSES

- Documentation is all on disc – no overview of what each program does
- Unerasing doesn't work reliably on 8512's B-drive
- Some of the utilities are irrelevant for the PCW

RANGE OF FEATURES

EASE OF USE

DOCUMENTATION

PERFORMANCE

VALUE VERDICT

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PLUSES

- Can recover erased files on A and B discs
- Menu-style operation for ease of use
- ZIPDISC command speeds up your disc operations

MINUSES

- Can't cope with damaged discs
- Documentation is very brief
- Looks a bit pricey

RANGE OF FEATURES

EASE OF USE

DOCUMENTATION

PERFORMANCE

VALUE VERDICT

handled differently. Since there are more than 255 blocks per disc, a block number needs two bytes. If you copied SETDEF to drive B, you might see a directory entry like

```
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20 .SETDEF COM...
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
```

Being 4k long, it occupies two 2k blocks numbered 0098 and 0123 – notice how these appear as 98,00 and 23,01 in the block list. CP/M likes to reverse the order of things like this for no readily apparent reason to keep you on your toes.

CP/M Plus DISC SECTOR EDITOR V2.4 by Adam Denning (C) HiSoft 1986	
Drive:	File:
A	SETDEF.COM
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20	PIP.COM
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00	X2Z(1)~RENAME.COM
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20	SET.COM
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00	SET24XB9.COM
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20	SETDEF.COM
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00	SETKEYS.COM
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20	SETLIST.COM
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00	SETSIO.COM
00 53 45 54 44 45 46 20 20 43 4F 4D 00 00 00 00 20	First Half
98 00 23 01 00 00 00 00 00 00 00 00 00 00 00 00	

▲ A section from the CP/M master disc's directory as seen by The Knife

Major operations

So what actually happens when something serious goes wrong with a disc? Usually some dirt gets on to the recording surface or a stray magnetic field wipes part of the disc, which means that one or more sectors can't be read any more. When the drive head reaches such a sector, it will throw up an error message and refuse to go on. If you can get to the relevant area of the disc and convince the drive to ignore the bad sector, you will be able to read the rest of the file normally.

When your disc goes wrong, the PCW will tell you on which track and sector of the disc the fault lies. First of all, keep choosing the 'Retry' option that CP/M offers you. You may find that after a few attempts the drive can read the disc after all. In this case, immediately use PIP to copy all the files on the disc to a new one, since the error may recur on the old disc.

If the disc won't recover itself type DIR and see if you can get a directory listing out. If you can, note down the names of all the files. Now use PIP to transfer all the files



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A businessman using an 8512 (Avon P-o-S needs both drives) for his books and stock control would probably find it sensible to have the PCW where the sales are actually made. It can carry out calculations, print out VAT receipts and keep track of stock in one operation.

At the end of the day instead of poring over till rolls and checking stock levels for re-ordering before a long session on the books, you just tell the PCW to balance up what has been sold and print out all the details you need.

Avon have turned their attention to what they see as one of the last major gaps in the business microcomputer software market. Until now small businesses could only look enviously at the big stores with their point of sales systems costing thousands of pounds.

Sensible stock

The main advantage is that it gives a sensible method of stock control - a tortuous time consuming process for many businesses but one that is vital for survival. POS provides quite sophisticated stock records. As well as telling you how many Mink Stoles you have in stock it gives an average price, works out profit margins and suggests what you should re-order - according to the minimum stock levels you set. You type in full details against each stock items so that you get a re-order list complete down to the suppliers phone number.

But most important, every time you sell a Stole the stock record is adjusted immediately without any effort. Avon have made a point of operating an 'infinite stock' system which means that you can keep selling particular items even if, according to the stock record, there are none left. This, they explain, is to overcome the ridiculous situation where a customer cannot buy an item they see on the shelf because it is not in the stock record. The program takes the number of 'phantom' items sold into account when suggesting purchase orders.

This might not suit a warehouse, for instance, where stock is not on display and they would want a check on stock availability. You can check stock levels but it is only by printing out a complete list - virtually every list is printed out rather than displayed on screen.

When entering a sale you are asked for a product number which automatically provides the name of the product and the correct price. Unfortunately if you don't remember the exact number there is no way of getting a list displayed on screen so it is worth while putting coded labels on each item and keeping a printed product list beside the machine.

One major advantage is at the end of the day when by printing out all the lists from the End of Day Routine you will have complete record of the day's trading with sales reports, stock details and suggested purchase orders. It will even update your accounts automatically. There is advice in the manual on how to tie up POS with Sage accounts and you can approach Avon for details of other proprietary accounting systems.

It is important to keep these lists because you don't keep records of an individual day's business on disc. When you run the 'Start of Day' routine you wipe these details to make room for the new day (or whatever period of operation can comfortably be accommodated on the disc space available).

The major worry with having your PCW packed with

SALES PITCH

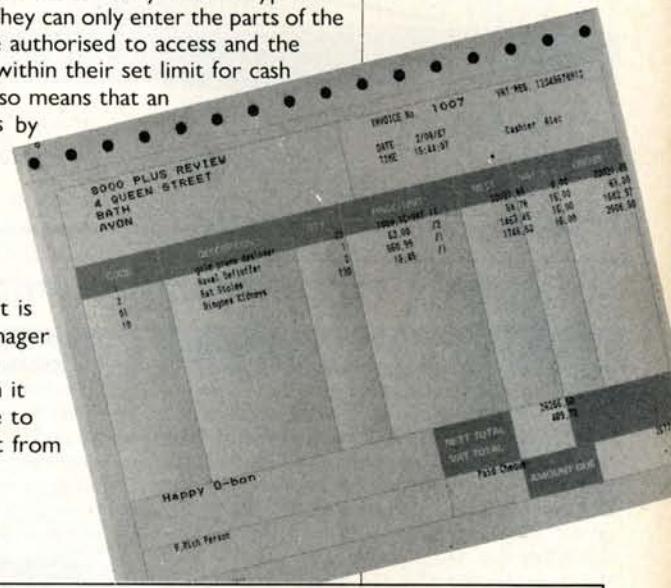
Jealous of those Sainsbury's computer checkouts?

Avon's new package gives shopkeepers the chance to go it alone

essential information in the middle of a shop is that anyone (including the tea boy) could pry into your business. Avon have got round this effectively with a system of passwords.

As each person records a sale they have to type in their own password. They can only enter the parts of the program that they are authorised to access and the program keeps them within their set limit for cash sales and refunds. It also means that an effective track of sales by cashier can be kept.

Only the manager's password accesses sections dealing with pricing, course the setting of passwords. Mind you it is important for the manager to remember his own password. If forgotten it would not be possible to "reconstruct" the rest from the disc. **EXIT**



Who's interested?

Obviously not every shopkeeper will want POS. A publican on a busy Saturday evening might not find people keen on waiting for a VAT receipt for instance.

Where this system will score is in where a VAT receipt is a necessity or where there could be a few highly

priced items going on one receipt. The pricing system also caters for bulk discounts so it would be useful for a wholesale operation.

Looking to the future Avon suggest a way that product numbers should be set up in case you're considering going over to bar coding.

PLUSES

- Sensible method of stock control for small businesses
- Ties up with many double entry accounts packages.

MINUSES

- No on screen prompts for account numbers.
- No out of stock warning during sales.
- The time taken to print out an invoice could inconvenience customers in some businesses
- Price doesn't encourage you to try it out

RANGE OF FEATURES
EASE OF USE

PERFORMANCE DOCUMENTATION

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One of the main joys of computers is making them do more and more with less and less key strokes. That is why anyone really keen on their PCW has to get control of the SUBMIT command. The idea is that you can carry out a number of commands (ones that you will want to use regularly) by grouping them in a special files called 'submit' files. Then when you 'run' this file all the commands in it will be carried out without having to be keyed in separately.

To do this you first need the RPED text editor or a word processor that can produce files in ASCII (LocoScript's ASCII file option will do). Then you write in your list of commands exactly as you would type them after the A> prompt, each on a new line. Save the file under any filename you choose, but make sure it ends with the extension '.SUB'.

On the CP/M master disc is a file called SUBMIT.COM – you will need to have this on the same disc as the .SUB file you have just created. When you type

SUBMIT filename

all the commands are carried out automatically. For example, suppose you use the B disc as your work disc, and at the end of each day you back it up by copying all .DOC files (or whatever you call your documents) from drive B to drive A. Then you tidy up by erasing all .BAK files that your word processor has created without asking you, and finally you see how much space there is left on the discs. If you create a file called BACKUP.SUB containing the lines

```
PIP A:=B:*.DOC
ERA B:*.BAK
```

SHOW

then as long as you have SUBMIT.COM, PIP.COM and SHOW.COM on your disc, when you type

SUBMIT BACKUP

these three commands will run automatically. So now you have no excuse not to make backups!

B>submit backup

B>PIP A:=B:*.DOC

COPYING -
 CHAP1.DOC
 CHAP2.DOC
 CHAP3.DOC

B>ERA *.*.BAK
 ERASE *.*.BAK (Y/N)? y

B>SHOW

A: RM, Space:	25k
B: RM, Space:	372k
M: RM, Space:	270k

B>

▲ Running the example Submit file BACKUP.SUB. All you type are the parts in lower case – the rest is all done automatically by CP/M

And So Much More

One of the most useful features of Submit files is that you can make them provide the answers to prompts that programs give you when they expect you to type things at the keyboard. If the first character on a line is '<', then the Submit file assumes this is a reply to a question rather than a command to CP/M.

Say you regularly use a database called HEAP to store details of your collection of fossils in a file called FOSSILS.DAT. To run HEAP, you always run SETKEYS with a file HEAP.KYS to set the keyboard up, move the various files into M drive and load the program. The

LOOK NO HANDS

In which Dr. Alec Rae prescribes some cures for Typist's Finger

The essence of a computer is to save you time and effort. So how would you like to be able to do virtually anything you do in CP/M without even touching the keyboard? For this you have to come to terms with a couple of commands called SUBMIT and SETDEF.

When you have these under your belt you can carry out multiple command operations like moving files around, renaming them, erasing them or even running programs and inputting information with only a single command at the keyboard.

program has devilishly cunning protection which insists you type the easily remembered password 'XZ12Q!***' every time you start up so you add this in a < line which actually inputs this information at the right moment.

Since the only file you ever use is the FOSSILS, you always reply FOSSILS [RETURN] when the databases prompts you for a filename. If you set up HEAP.SUB to be

```
SETKEYS HEAP.KYS
PIP M:=HEAP.★
M:
HEAP
<XZ12Q!**
<FOSSILS
```

Now instead of sitting waiting for the machine to whizz and whirl its tortuous way through the loading procedure to input information every five minutes you just run type SUBMIT HEAP [RETURN] and then go off to make a coffee.

You have to be sure to answer the right prompts of course. If it expects you to write Load File Fossils, lf Fossils or l [RETURN] f [RETURN] Fossils, you have to give it what it wants. If there's a [RETURN] needed after a command you should start a new line in the Submit file. If there isn't one needed, don't.

Variable delights

But say there are two files you use regularly: FOSSILS for the fossils collection, and DISCOS for the directory of local night spots. Then you can take advantage of SUBMIT's ability to use variables.

In the place where you wrote FOSSILS in your Submit file you write \$1 instead. This means when you type

```
SUBMIT HEAP FOSSILS or
SUBMIT HEAP DISCOS
```

the file loads HEAP as before and where it sees \$1 it substitutes the first word after HEAP on the command line, so opening the correct file automatically. You can use up to nine 'variables' in this way, not unreasonable called \$1 to \$9. So if you list the discos visited in July and August in files called DISCOS.JUL and DISCOS.AUG, then if you make the last line of HEAP.SUB

<\$1.\$2

Oven Ready

As well as PROFILE.ENG on your CP/M discs there are a couple of examples of .SUB files already on your CP/M discs. LOGO.SUB (on side 4 of the CP/M utilities) for instance runs "KEYS.DRL" the LOGO SETKEYS file before it loads Logo and RPED.SUB for the BASIC text editor calls up BASIC before it loads RPED.

```

B>setdef [order=(sub,com)]
Search Order      - SUB, COM
B>backup
B>PIP A:=B:*.DOC
COPYING -
CHAP1.DOC
CHAP2.DOC
CHAP3.DOC
B>ERA *.BAK
ERASE *.BAK (Y/N)? y
B>SHOW
A: EM, Space:      25k
B: EM, Space:      372k
M: EM, Space:      270k
B>

```

Where Do They Come From

To help you understand what the machine is doing when it is running a Submit file or how it looks through all the drives with a SETDEF search order and interesting trick is to use the command SETDEF [DISPLAY]. The PCW then tells you where it is getting the program from.

For example if you want DiscKit from the M drive it will say 'M:DISCKIT.COM' as it begins to load. Very interesting for a while but when you get fed up (after about five minutes) you type in SETDEF [DISPLAY=OFF] to get back to normal.

▲ BACKUP.SUB revisited... after using the SETDEF command as explained, you can run the Submit file just by typing BACKUP [RETURN]

you can type

```

SUBMIT HEAP DISCOS JUL OR
SUBMIT HEAP DISCOS AUG

```

to open the correct file.

At the end of the day the only person who can decide what .SUB files you could sensibly use is yourself. Any commands you find yourself repeatedly typing are candidates for Submit files. Remember – once it's keyed in you may never need to touch the keyboard again.

When the Sub Comes on First

You can make Submit files even easier with the aid of the SETDEF command – a cunningly disguised form of SET DEFaults.

Start the Day the Profile Way

You may not know it but you already have a few .SUB files on disc. Best known is the PROFILE.ENG file on side 2 of your CP/M utility discs. This one is set up to be easily converted into a PROFILE.SUB that invaluable aid of the PCW owner. What happens is that every time you start up your PCW it automatically looks for a file called PROFILE.SUB. If it finds one it will carry out the commands in that file before it does anything else and without you touching the keyboard.

PROFILE.ENG is one suggestion of how this could be set up. It transfers virtually every utility you would normally need on to M drive and makes M the default drive. So if at any time during the day you want to use BASIC, DISCKIT, SHOW, TYPE or PIP it is sitting waiting for you without you needing to swap discs.

If you want to make use of this useful setup just change the name of PROFILE.ENG to PROFILE.SUB with REN PROFILE.SUB=PROFILE.ENG

although you need to remember that with an 8256 without an expanded memory it does take up virtually all the space available and if you want to run a program that makes use of the M-drive you may find there is no room.

It is probably better to adapt PROFILE.ENG to your own needs by editing it so that it only copies the utilities you need – maybe just PIP and DIR. Notice how SUBMIT's < feature is used to run PIP with: PIP on a line by itself runs PIP and gives you the * prompt, then each line beginning with < give PIP a new file to copy. Finally, < on a line by itself exits from PIP.

Your PROFILE.SUB doesn't have to be an adaptation of PROFILE.ENG – you could rename the HEAP.SUB example file from this article PROFILE.SUB, and your HEAP database would start automatically when you start the PCW up. You must however have the file J14CPM3.EMS on the disc too, otherwise the PCW can't use that disc to start from.

If you've been experimenting with Submit files, you are probably getting fed up with typing 'SUBMIT ...' to run things. After all, with real programs you just type the name alone and it runs. What you do is give CP/M the command

```
SETDEF [ORDER=(SUB,COM)]
```

You must have the file SETDEF.COM on your current disc. This makes the PCW look for and run a .SUB file before it looks for a .COM file (a program). Once you have done this, all you need to type to run a Submit file like the HEAP.SUB example used before is

```
HEAP [RETURN]
```

Even though you aren't typing SUBMIT HEAP, you still need to have SUBMIT.COM on the disc, since it is used behind the scenes.

One problem crops up if you have a .SUB file and a .COM file of the same name. This often crops up if you are using the Logo programming language on the PCW, where there is a LOGO.SUB file and a LOGO.COM file. If you want to run the program directly without using the SUB file, you must type

```
LOGO.COM [RETURN]
```

otherwise the PCW would run the SUB file.

You know where to look

Hands up anyone who has typed PROGRAM [RETURN] to run a program and got that really annoying piece of CP/M sarcasm 'PROGRAM?' You know it's there. You've just been working with it for the last three hours. Then after cursing for five minutes you suddenly note the little prompt says M> or B>, when PROGRAM.COM is on drive A. The problem was you didn't tell the PCW where to look.

For instance, as you get to grips with PROFILE.SUB files you will probably find it a good idea to whip your favourite programs or utilities into the M drive, and may well find it worthwhile telling the PCW to look there first for any program.

You can alter the 'Search Order' with a command such as

```
SETDEF M:,*.
```

This tells CP/M that whenever you ask to run a command, it should look on the M drive for the file first of all, and then if it doesn't find it there to look on the current drive – the asterisk stands for 'whatever the current drive is'. So, if you are working on drive B, you can type SHOW [RETURN], and (assuming you have copied SHOW.COM onto the M drive) the command will work even though SHOW.COM is not on the current disc. Without using SETDEF to define the search order, you would have had to think which drive it was on and type M:SHOW instead.

If you have a two drive machine you can even tell it to look in all three drives in a certain order with the command

```
SETDEF M:,A:,B:
```

for it to quickly flick through all three in its search.

```

setdef m:,* [order = (sub,com) temporary = m:]
pip
<m:=basic.com[0]
<m:=dir.com[0]
<m:=erase.com[0]
<m:=paper.com[0]
<m:=pip.com[0]
<m:=rename.com[0]
<m:=setkeys.com[0]
<m:=show.com[0]
<m:=submit.com[0]
<m:=type.com[0]
<

```

▲ The contents of PROFILE.ENG, supplied on the CP/M master disc. You could rename this PROFILE.SUB to copy useful utilities to the M drive.

The Cracker-2

Using the wrong spreadsheet can seriously damage your prospects....



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It looks as if the Chancellor has been using the wrong Spreadsheet.

You need look no further than Essex for the Home Grown PCW spreadsheet with nearly as many facilities squeezed into an 8 bit edition as available with its 16 bit big brother. Look around the market and ask yourselves these questions before you take the first box on the dealer's shelf....

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LocoScript 2

Speed and print are the two main new features, but LocoScript 2 is packed with other surprises

BT

Press [F5] ... enter the page to jump to ... A short pause, the disc whirrs, and suddenly you are at the start of the specified page

BT

you can put any accent over any letter (Welsh speakers, there you are!) And there are full modern Greek and Russian character sets

KC

Quite simply, almost no other word processor at any price can produce the sheer range of characters that LocoScript can. For foreign language or mathematical work, do you have any choice?

BT

in LocoScript 2, the use of alternative printers is about as simple as it can be

KC

There's a good chapter on converting yourself from LocoScript 1 to LocoScript 2

KC

One of the most exciting features of the new program is its ability to send text direct to any printer attached to the expansion port at the back of the computer

KW

All PCW owners who type anything more than straight single page letters will benefit from LocoScript 2

BT

Costing just £19.95 LocoScript 2 is almost certain to be popular among the majority of PCW owners.

KW

The good news is that you may never have to use CP/M again and your days of running DISKIT to format and copy discs are over. You can do all necessary disc housekeeping and preparation entirely from the LocoScript disc management menu in LocoScript 2

BT

Is LocoScript 2 better than LocoScript 1.2? The answer is a resounding yes

KH

General moving about the screen in Edit mode is two to three times faster

KH

Now that you can get daisywheel print out of LocoScript, there seems hardly any argument not to use it

BT

the program has been made easier to use, and the new manual is a treasure chest of useful information

KH

It uses a completely new and far superior character set

KC

All documents prepared under the original program can be loaded into version 2

KH

LocoScript 2 is the new word processor from Locomotive Software for the PCW8256 and 8512.

LocoScript 2 is much faster than the original LocoScript, is easier to use, has more features, better printing and can use a range of high quality printers.

But don't just take it from us - read what the experts in the specialist press say.

At just £19.95 can you afford not to buy LocoScript 2?

At £19.95 LocoScript 2 is virtually a giveaway and includes as standard many features that are not found on more expensive packages

KH

the whole process of editing is speeded up by some much desired short cuts

KC

LocoScript 2 is Locomotive's answer to criticisms it has received over LocoScript 1, and impressive it is too.

BT

moving to a specific page is done in the time it takes to read the file and display it on the screen

KH

there are numerous extra goodies

KC

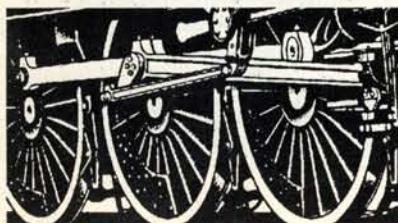
Full upper and lower case options in Find and Exchange

KC

When printing characters with accents, the character is printed at full height with the accent above it, so accented capitals do not need to be squashed in order to accommodate the accent

KH

Further information from:



LOCOMOTIVE SYSTEMS

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Extracts from reviews by:

Ben Taylor, 8000 Plus, May 87

Ken Hughes, Computing with the Amstrad PCW, June 87

Kelvin Walker, Putting your Amstrad to Work, June 87

Katherine Cranford, Amstrad Professional Computing, June 87

Over the last two months these pages have explored the outer limits of LocoMail. It is a package capable of everything from simple bulk mailshots through to an integrated business system. In this last article of the series, LocoMail's various facilities for arithmetic and selecting appropriate paragraphs of text will be used to build a simple but effective system for order processing, invoicing and credit chasing. All this, and you can write letters too!

Last month's article covered doing arithmetic inside documents. While this is potentially handy for nuclear physicists needing to run off a quick analysis, by far the most common use of arithmetic is adding up bills and working out VAT.

Suppose you give a certain type of customer a 1/3 discount on whatever they order. If you have a variable called 'total' which holds the gross figure, then the amount you actually want to put on the invoice is 2/3 of this. Therefore you might use a LocoMail command something like

(Mail) total*2/3(Mail)

However, being a computer LocoMail likes to be accurate, and if you have a basic bill for £100 you will end up with an invoice for £66.666666. What you need is some way of truncating this after the first two decimal places, so that figures are only given to the nearest penny. Luckily LocoMail allows you to do just this, by specifying the *format* of the number to be printed.

To specify what format a number should be printed in you need to add an extra instruction to LocoMail while it is doing its arithmetic. Just before the final square bracket which ends the calculation, put a vertical bar, | (typed [EXTRA]+1/2). Now you can type the number of decimal places that LocoMail is to use. So

(Mail) total*2/3 | 2(Mail)

would produce a bill for £66.67 from a 'total' of £100. The other effect of this is that if you print out bill for £12, the fact that you have demanded two decimal places means that you will get 12.00 printed instead of just 12. This all serves to make your column of figures look plausibly regular.

Storing up the fun

LocoMail can store blocks of regularly used commands for use at later moments. Suppose for example that when you write LocoMail documents you regularly like to ask the user if the current document is OK. On a reply of "n" for no, you abandon the current data and try the next lot, otherwise you press on.

The commands to do this are as follows:

(Mail)OK=? ; Is this right?

OK="n" : < : * : >(Mail)

You will recall that the asterisk is the LocoMail command to give up and try the next data. You might find yourself using this at several places in a document, and the retyping is tedious.

The solution comes in two stages: first you must tell LocoMail to store these commands under some short name for future use, and then you must tell it when to use the commands. The way to store the commands is

(Mail) check="" ... "(Mail)

The '...' stands for *all* the text in the previous two-line command including the (Mail)/(Mail) commands. Effectively this says to LocoMail, 'store all the keystrokes between the quote marks under the name "check". Whenever you see "check", replace it by these commands'. Think of it just like storing a phrase of text for re-use in ordinary LocoScript. 'Check' is just an arbitrary variable name, like the letter you choose to store a phrase by, so you could use anything you like.

It is important to realise that you must put all the (Mail) and (Mail) commands that you would need inside

IN GOOD VOICE

Ben Taylor uses a few devious tricks to get to the bottom of LocoMail

the quotes too. Unfortunately it can make the document very hard to read, since the on-screen reverse video to tell you when you are inside a Mail command goes wrong when it encounters a (Mail) inside the quotes.

This merely sets the loop up but doesn't actually run it. You can put these commands anywhere in a document, and LocoMail will read them and inwardly digest them for later use – apparently ignoring the whole lot. When you actually want to use the commands, you type at the point in the document where you want to do the asking.

(Mail)%check(Mail)

The percent sign just means 'do the commands stored in "check"'.

Going loopy

Probably the most complicated feature of LocoMail is its capability to process blocks of instructions over and over again. It's a bit like programming in BASIC, so if you have ever got to grips with that you will find LocoMail easy.

Once you have got the hang of storing blocks of instructions as just explained, it may not surprise you to learn that you can automatically repeat these stored blocks in a 'loop'. A loop is a way of repeating blocks of commands again and again until some ending condition comes into force. This can be very useful if, for example, you want to type in a list of items into a form letter where you don't know how many there will be. You can get LocoMail to prompt you for each item, insert it in the letter, and go on doing this until you say you've finished.

Where and how much?

LocoMail costs £39.95 and is available from Locomotive Software (0306 887902), from Amsoft (091-567 3395) or from Amstrad dealers like Dixons stores. If you are going to use LocoScript 2, make sure you ask for the special version of LocoMail which is compatible.

Throwing it all away

Think back to the really basic LocoMail operation of taking a list of names and addresses from a data file and merging them in with a form letter. There might be an occasion where you want to refer to the next person on the list in a letter. Normally you couldn't do this because you can only 'see' one set of data at a time. However, if you put \$+ anywhere in a LocoMail command, all the data variables (like name and address) will be updated to hold the next person's values, even though the

same letter is still being processed.

Conversely, a \$- means 'when you get to the end of this letter, don't go on to the next person's details but keep the current ones and re-use them.' This is most likely used if you discover that a \$+ was wrongly used. Generally, these two commands are pretty obscure, but being able to directly control which data record LocoMail draws its variables from can be very useful for advanced applications ... as the invoice example shows.

The key command is done with an @. To LocoMail,

(Mail)%spend@money(Mail)

means 'repeat the set of instructions stored under the name "spend" until the value of the variable "money" is zero'. This is a common situation in real life, known technically as 'not being paid enough'.

To see how it works, here is how to write a simple adding-up calculator in LocoMail. Type the following into a document:

(Mail)total=0

loop="(Mail)next_amount=?

total=[total+next_amount](Mail)"(Mail) ▶

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HERE BE DRAGONS

By day Stephen Blakelock is a charge nurse in Yorkshire. By night he and his PCW take their fantasy club where no beast has gone before.

I am a member of a small group of people who meet on a regular basis; once a week, at the least, we gather to indulge in a game that is difficult to describe but fascinating to play. We are a responsible bunch numbering a Consultant, a Doctor, a Psychiatric Nurse, a Midwife, a Civil Servant, a Nanny and a Community Worker amongst our merry band. It could be said that during our working hours we see a lot of the problems that the real world can deal out. Certainly when we are off duty we like to use fantasy as a way to relax, to stretch our imaginations, and to escape to the problems of an *imaginary* world.

We play 'Dungeons and Dragons', a fantasy rôle-playing game that some of you may already have heard of, or come across, particularly if you are the sort of person who likes to play 'Adventure' games on your PCW. As a game it requires a small group of people each of whom takes on the rôle of a fantasy character. The characters are used as a group to cope with the problems, situations and difficulties that the controller, or 'Dungeon Master', has set up.

This means that I, as one of the Dungeon Masters of this group, must continue to produce scenarios. They must be challenging, detailed, with all the sophistication that our group of players have come to expect. A scenario involves the writing of text, large amounts of text, usually of plot, events and descriptions. Also the creation of data sheets, forms and reference tables is necessary. In addition all the characters, animals and other creatures must be detailed for the players to meet, and the villages and towns drawn so that they can be described as the players explore. Plans of buildings and



drawings of objects also play their part in the total portrayal of our group's particular fantasy world of Mundis.

Stone age rituals

When I first set out to do this task all I had to aid me were the traditional paper and pen. For many years I slogged at the work without a microchip anywhere near. This was even before the emergence of the ZX80. Remember that one? 1k of memory, no real keys, weird BASIC, but at least it was cheap! No, I didn't buy it, but I started in the home computer addiction in the same year with a Microtan 65, which at the time seemed to be a better machine. It proved so and soon was earning its keep by running utilities to help me in the creation of my plots. When I purchased the Asimov Word Processor for the system I was immediately won over to the concept, and gave my typewriter to the Day Hospital at my work. All of a sudden I could produce two printed documents every evening, instead of about two typed documents a week. Who needs a typewriter under these conditions?

At that time I was still using cassettes to store my texts, programs and data but I was getting frustrated with their slow speed and lack of reliability. I felt it was time to upgrade but when I enquired about the cost of conversion I was staggered. About £430 was required to upgrade the Microtan to just one 5 1/4" disc drive. Looking about at the machines available it was obvious that the PCW was a bargain not to be missed. Not that finding one was easy, many places that advertised they sold the machine informed me that "we'll have one in a

Rules of the realm

Although a game of infinite variety, Dungeons and Dragons has a few basic principles. Each type of character in the game has skills that, used properly, can help the group to achieve its goals. For example, the 'Fighter' usually has the strength, weapon skills, and knowledge of strategy to defend the group from attack. The 'Magic User' has the spells and arcane knowledge to understand the magical and mystical things within this strange world, and to some degree control them. Each of the characters also has a personality created by the player, which both affects the way they interact as a group, and the solutions they come up with.

The Dungeon Master is the player who has set up the situation for the rest of the group. He or she has created a scenario, detailing the problem, its consequences, history, landscape and characters much as a fantasy novelist

creates a plot for a novel. The difference between a novel and the game, or between computer Adventure program and the game, is the degree of flexibility inherent in the game. Whereas the novel has only one direction, and the reader has no control over what happens next, the scenario has the decisions of the players to contribute to the final result. Also unlike a computer Adventure there are often multiple solutions possible to each problem.

The choices the players make are part of the overall creativity of the game. Suffice it to say that the game is very satisfying to play, enough for my own efforts at the creation of scenarios to date back about ten years. The players we have at present seem quite likely to be still wanting to play in another ten years time!

week or two, but we've sold out at present." The Yellow Pages, and a 50 mile round journey, solved that one and for the last seven months I have been a proud owner of a PCW8256.

It has certainly improved the production of scenarios. The arrival of my two children, wonderful as they are, had eaten into the time available for such leisure, but the PCW has gained that back for me, and more. I now use the machine with LocoScript, a lightpen and graphics utility, and a package to enhance the flexibility of the PCW printer.

LocoScript proved quite easy to get into, certainly clearer than WordStar, Applewriter II, or the other 'Industry Standard' word processors I had experienced – all of which seemed to use the most obscure key combinations that the programmer could devise. True the manual isn't perfect, but you folks should be grateful that these things have improved over the years. I have experienced instruction sheets that consisted of an A4 page of smudged text, with about three spelling mistakes per paragraph, and the most obscure technical language. Certainly LocoScript proved to be just the right word processing software for my work. Most of the pieces of text that I do are single or two sheet items, relating to a particular topic or location, and at this level LocoScript seems fine. Indeed I store the different types of information under the group headings of SCENARIO, FORMS, CULTS, SPELLS and so on. This saves much time later when I'm looking for the right thing to give to the players.

Build a better dungeon

In order to enhance LocoScript I then purchased Supertype by Digita International. This utility is designed to change the script used by CP/M or Locoscript for one of the eight that they offer. I was particularly impressed at the ease at which this utility was installed – I suppose it must have taken about twenty minutes on my various discs. The typeface I most use is the 'Olde English' which allows me to type letters that I once had to painfully draw out in archaic script. For more serious articles I use the 'Business Round' typeface as it is clearer and more readable than Locoscript standard.

The Booty Basket.

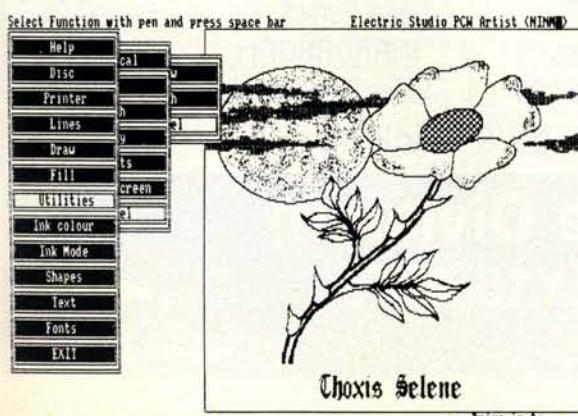
Ossela Moot Hall.

Location.

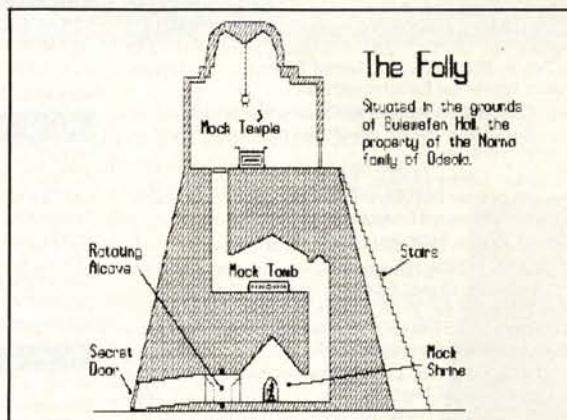
The Booty Basket is a tall wooden building on the northern side of the market square in Ossela. (Ath Three Kingdoms) It is brightly painted with the crests of Earl Barley, and other decorative patterns, the paint being renewed every five years.

I spell check my longer pieces with Prospell, and have created a specialist 'dictionary' to cope with all the technical phrases within the game, and my work.

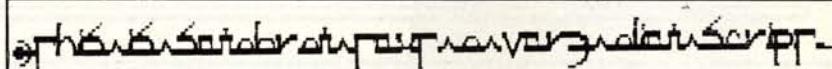
Having got the production of written material under control I then set out to see what the PCW could do with the artwork. After reading several reviews I decided that 'The Electric Studio' Lightpen was the most



suitable utility for me and ordered one. A week later it was installed on my machine. From a series of easy-to-use menus I could select the effects and textures to draw up most of the pieces of artwork I had previous had to do by hand. I'm not really an artist, most of my work was a struggle to get the pencil to draw what I had imagined, but the utility certainly helps. Maps, plans and pictures are now rolling out of my PCW printer at a fair rate, and the ability to make several copies means that I can hand out examples and retain one for my own use. This is very valuable where several people want to see the map at the same time!



Once the 'Font Editor' was issued by The Electric Studio I had yet another useful utility. This piece of software allows you to design your own typefaces, and I



set to producing 'Senabran' script. Senabran is a continent in our imaginary world, and it has a culture very similar to that described in the Arabian Nights stories, and of course it needs its own script. I have now been able to design an alphabet which looks arabic but is just about readable as English, exactly what is needed for our game. It can be typed in from the keyboard with relative simplicity, but took quite a while to create. The utility requires time and patience to get a font looking right, and the instructions are not clear about where your font is being stored. I spent about five hours working on the Senabran script only to find the next time I attempted to load it that my work had been stored on the memory disc only.

At the moment things are stable, but my plans for the future include a database for the people and locations of our imaginary land. Already the PCW has revolutionised the way in which I produce my scenarios, I am sure that it will continue to do so for many years.

EXIT

Are you a case?

Has your PCW revolutionised your life? Traumatised it? 'Case in Point' is a regular feature of 8000 Plus, and we are always looking for readers with interesting experiences to relate. If you use your PCW for something more than just running LocoScript, why not share your thoughts with a waiting world?

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SUPERCALC PROMPT by Randall McMullan
£9.95 • Collins

There are two possible reasons for buying a book about software which already has its own weighty instruction manual: the book either replaces the manual, or adds to it. From the way this book starts ("Sit at your keyboard and start using SuperCalc") you might assume it is meant as an introduction to replace the manual; if so it seems to fall between two stools. The 'SuperCalc at a Glance' section is clearly presented and well illustrated, but lacks the detail of the manual's own reference section, and is too involved to enable the user to start working on SuperCalc straight away – something blissfully easy with the manual's own '10 Minutes to SuperCalc 2' chapter. It might well be handy as a reminder of the functions, though, once you're reasonably familiar with the software.

Where SuperCalc Prompt scores is in its several example spreadsheets which illustrate and reinforce the techniques picked up from '10 Minutes' – good practice, and plenty of ideas for incorporating the tricks of the package into your own spreadsheets. These are methodically set out and explained carefully, with several screen shots. Particularly useful are the examples demonstrating the setting up of an invoice form and an electricity bill estimator, the former which could be used with little or no adjustment as your own invoice spreadsheet, the latter showing nicely how the same sheet can be used for different sets of data. The aims, ways of building up and printing the sheets are clearly set out.

The ability of SuperCalc2 to produce simple histograms with asterisks is given rather more coverage in the book than the manual, and probably deservedly so. There is also a lot of material on the graphics facilities of SuperCalc3 which only runs on IBM PCs and so is quite inapplicable to PCW owners.

As the book isn't specifically aimed at PCW users

BOOK LOOK

The new tomes of the month should please SuperCalc users and CP/M hackers alike

there are some irrelevancies to Amstrad owners ("Load Work Disk," it tells you. "Close Door." This might well raise false hopes of some Parental Guidance material lurking somewhere in the recesses of SuperCalc.) Also the book implicitly assumes that two drives are available, rather annoying if you happen to have an 8256 when it blithely tells you it is necessary to leave the program disc in A and put the data disc in B!

All in all the SuperCalc manual is better as an introduction from scratch and as a definitive reference, but if you wish to see a few example spreadsheets thoroughly explained and dissected before you start making up your own, and you have ten drinking vouchers to spare, this could be just the job.



SuperCalc Prompt
 ISBN 0-00-383417-4
8000 PLUS VALUE VERDICT ■■■■■

CP/M PLUS HANDBOOK by Digital Research
£14.95 • William Heinemann

It may seem a contradiction in terms to talk about a comprehensive guide to using CP/M that is easy to read. Digital Research's new guide which reaches the world under the snappy title *CP/M Plus Handbook: Operator's and Programmer's Guide for the Amstrad CPC 6128 and PCW8256* only goes part of the way to proving this wrong.

The book has been about for some time (it has been published in one form or other since 1983) but the publishers have recently launched a new 'Revised Paperback Edition'. Digital Research are the designers of CP/M, and so their 'official' book should be pretty definitive. It attacks CP/M on two fronts – first, explaining how to use all the CP/M commands, and second a technical description of the internals of CP/M for the benefit of hackers.

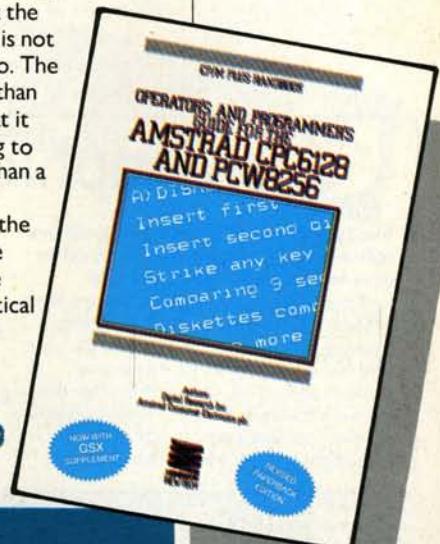
On the plus side it provides comprehensive information on all the subjects you will be interested in, and more importantly you can find all the information you want pretty easily. For once here is a CP/M book adequately indexed both at the beginning and the end of the book – something of a rarity.

The main revision of the book seems to be summed up in the words 'Now with GSX Supplement' proudly proclaimed on the front cover – a bit like a toothpaste advert. For all those who are interested in the

mysterious world of GSX this 40 page appendix will be worth the £14.95 alone. For those who are not yet into GSX it is not written in a style that will tempt them to dabble in graphics from BASIC.

It is comprehensive in its descriptions of the CP/M commands, with a number of examples to help you through, and even has a section 'How To Start CP/M Plus' reminding you to check that the computer's power is on. However, this is not really a book for the beginner to dip into. The 'User's' part takes up considerably less than half the book and is written in a way that it would be more use to someone wanting to fill in gaps in their knowledge of CP/M than a complete beginner.

The people who will get most out of the *CP/M Plus Handbook* are those who are interested in programming. It does have something for the beginner here – practical examples to look at – but of course the chance to lay hands on such comprehensive information about the PCW will make it vital reading for programmers.



CP/M PLUS HANDBOOK
 ISBN 0-434-90321-3
8000 PLUS VALUE VERDICT ■■■■■

TOP OF THE DESKTOPS

Another desktop publishing package?
Rob Ainsley investigates Database's offering,
and finds that last is not always least

Designer stubble, baseball caps, Filofaxes, compact discs, desktop publishing.... they're all *In* this year. In addition to running off your business letters, keeping catalogues of your priceless collection of Henry IV hammered silver copieces on a database, running your laundry accounts on a spreadsheet and playing Return from the Planet Tharg, you can use your PCW to produce your club magazine, community newspaper and information broadsheets as well, using one of the various desktop publishers now available.

THE DESKTOP PUBLISHER

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The newest contribution to DTP is from Database. With a title like "The Desk Top Publisher" and a price of under £30 you might be forgiven for thinking it is a cut-price version of some of the more expensive packages. In fact, it is an extremely well thought out and versatile program with just about every feature you might need for newsletter and broadsheet pagemaking, and it performs just as well as many of its pricier cousins.

The package comes with one disc (the program on one side and some clip art and alternative fonts on the other) and a compact wirebound manual. The examples on the cover of the pack are attractively and realistically laid out and avoid the every-typeface-except-italic-kitchen-sink approach which can look rather messy. The disc takes the best part of two minutes to load and indeed requires an empty M: drive to work with – if there's anything already lurking in there you get a screen instruction to erase it all and reload.

Graphic details

The facilities available on the graphics editor are much the same as on other desk top packages and offer the facilities of drawing circles, boxes, lines etc etc, filling with various textures, moving and copying shapes, stretching and compressing them, reversing colours and so on, that will be familiar to users of other DTPs. These appear in a 'tools' option in the graphics menu.

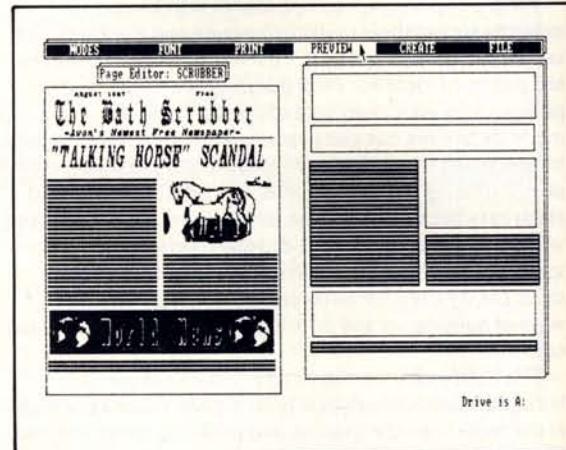
A slight grouse about this package

might be that you can't always work over the whole area of your graphics box at once – if you're trying to reverse a page-wide headline to white on black you will need at least two goes and risk some ugly seams as the working area can reach neither the full width nor quite the depth of the graphics box. You'd have to reduce your box size by pasting, work on it, and re-paste to the desired size.

The system works by drop-down menus and a cursor pointer, and is designed very much with the mouse user in mind; there is an option, available any time by pressing [PASTE], on using the AMX, Kempston or Electric

Studio mice, and the manual talks gaily of 'clicking' where hand-jobbers would say 'press [RETURN]'. Working exclusively with the cursor keys though really isn't much of a disadvantage, unless you're manipulating graphics or, in the extreme case, drawing freehand.

The first screen you see after the title shots is the main menu, showing graphics, text, page, font, filing and EXIT options. This is the base to which you return in between your jaunts into each area, the most important one being the Page Editor. Here your page is displayed full-size on the right-hand half of the screen holding all your graphics blocks (displayed as empty boxes) and your text blocks (shown as boxes filled with lines). You can move these blocks around at will, remove them (though they stay in the memory), map out new ones, or add ones from the memory. To get an idea of what the final page will look like, you can display the full page on the left hand half of the screen with the contents of each graphics block printed out, using the 'preview' option.



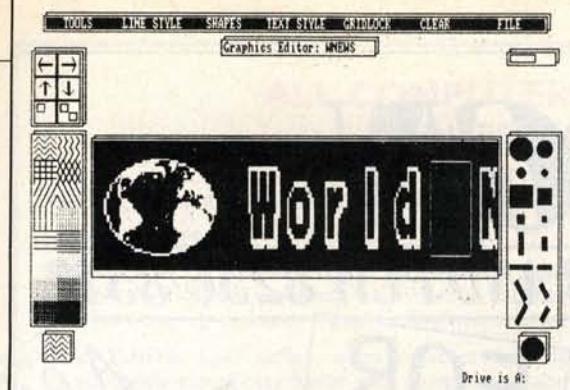
This Page Editor is probably the best and most distinctive feature of the Desktop Publisher and, unlike some systems it is intuitively obvious to use. The various boxes can be rearranged quickly, and the most likely combinations selected and saved. The short tutorial section in the manual takes you through these processes with some demonstration blocks and gives you a feel for the structure of the package very nicely. Any work on the boxes themselves is done in the Text Editor or Graphics Editor areas.

It's a snip

In the graphics editor you can select symbols and small pictures from the well-stocked cutouts page on the reverse of the program disc and incorporate them into your page – the manual only shows three-quarters of the selection, rather irritatingly. The complete range includes a telephone, several price tag borders, a gaggle of pointers, cars, lorries, animals, a complete PCW keyboard, the dove of peace and a lavatory.

Headlines are treated as graphics boxes and the text is inserted in a rather idiosyncratic way. You choose the font required in the graphics editor but have no choice as to the size; the dimensions of each character are determined on selection of 'text' from the tools option by marking out a rectangle to the size of letter desired. This inevitably ends up with the headline running out of box, so rather than find the optimum letter size by trial and error it's better to write a small headline and then paste it (stretching it automatically to fit in the process) into the appropriate box. Unfortunately the paste option is not very clearly described in the manual and a bit of trial and error may be necessary to get it right.

A slight drawback of this feature is that large letters (being small ones blown up) are rather jagged and 'blocky' and look a bit ugly in large headlines. But in



recompense there is a wide variety of fonts to choose from – fifteen in all, including a stencil effect, a copperplate-like script and a typeface called intriguingly 'hobbit', as well as the standbys of Olde Englishe and the conventional serifed and unserifed typefaces.

Getting the write style

By moving to the text editor you can get to work on the writing and it is an easy matter to insert material either directly from the keyboard, from a previously prepared ASCII file, or a combination of the two by reading in and then editing. Your source file must end in .ASC though or it won't be recognised and won't appear on the list of files to choose from.

Unfortunately to fill those tightly demarcated boxes of text with all your zappy prose is all too easy. The boxes are ultimately elastic and if the text you are funnelling in exceeds the limits of the box, the ever-accommodating text editor expands it in a flash with the message

There seems to be no way of confining the inflowing text to the size you marked out back in the page editor. This makes spreading out a long article brought in from another file into three columns rather laborious – the only way to do it would appear to be reading the entire article into each column box and editing out from top and/or bottom until the 'window extended' message disappears. It's nice being able to edit preprepared text so easily but it seems odd to have to use it for this purpose.

There is a 'lock' function but this only works for cases where the incoming text is too short for the box, which otherwise shrinks like a sweater washed at the wrong setting.

There is a splendid choice of typefaces and styles for the actual body text of the document. Unlike the other DTPs on the market, The Desktop Publisher prints text using the ordinary printer fonts that LocoScript and CP/M use, rather than the coarser 'screen dump' type lettering. You can select 10, 12 or 17 pitch type and any of their double width options as your default, and within any piece of text you can toss in italics, bolds, centring and underlinings. Although these can be selected via the menus it is easier to use the sequences familiar to LocoScribes involving the plus keys, $\Box I$ and $\Box B$ and so on. The codes don't appear on screen (they're stuck on to the first letter of the sequence so that erasing that letter will erase the style for the block as well) but the effects do – bold letters come out bold, underlined words underlined and italic letters are more or less italic on screen as well as on paper.

Whenever an action is to be taken, the appropriate menu (a list of graphics files when in graphics modes, text files in text modes, fonts available in font modes etc) flashes up and the required item can be chosen by moving the pointer and clicking.

When your blocks are all edited to your satisfaction, and moved around to the optimum arrangement on the preview page, you can print out – though you may find that some of those elastic text boxes are now overlapping madly, which will mean a trip back to the text editor and some juggling of words.

And the winner is ...

With three desktop publishers now out, how do they all compare? The other two are Mirrorsoft's Fleet Street Editor Plus (£69.95) and Electric Studio's Newsdesk International (£49.95). None of the three includes a mouse as standard.

The setting up process for The Desktop Publisher is easier than either of the others – there is no messing about with page dummies and the hierarchy of menus seems to be more logical. It is easier to experiment and adjust things as you go.

The range of text styles and quality of body text produced is also better in The Desktop Publisher. If you have two

columns of text, the level of their lines always matches. Certainly the Desktop Publisher seems very robust – it didn't crash once during our review, which is a pleasant change from Fleet Street Editor Plus.

However, the quality of headlines is better with the other two packages. Also annoying is the fact that you can't easily block columns off and say 'no text past here' when reading a file in, as they can.

For general newsletter use where the page is mainly taken up with columns of text, The Desktop Publisher seems the best package – and easily the best value of the three.

Overall this is a very good package, easy to use and to find your way round. It links up effectively with accessories like mice and digitisers. The pasting up process quickly becomes intuitive and it's easy to keep tabs on what is going where and how the page is coming along. Apart from the laborious way in which text has to be fitted into blocks if it comes in from external files, and the lowish quality of headlines, this is a package to be thoroughly recommended, and at the price is tremendous value for money.



PLUSES

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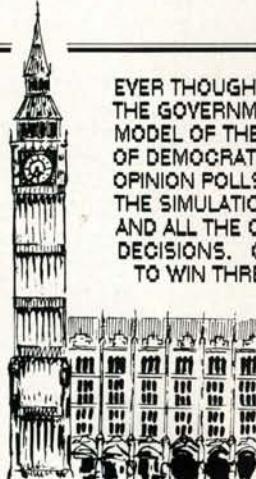
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There is an alleged quote of Caspar Weinberger about the US Defence Budget which goes: "a billion here, a billion there – it adds up, you know..." With the Yes Chancellor package you get your chance to play with the country's millions; you take the role of the man in No. 11 and guide the nation through a succession of budgets, deciding how much to fritter away on defence, law & order, education and social welfare. You also decide each year the level of taxation, fix the Bank Rate, and grapple with recalcitrant unions who all make ridiculous wage claims and are quite liable to strike if you don't give them enough.

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There's a yearly pay round with the public sector unions and they can make pretty extravagant claims. They usually settle for a few per cent under their claim but if your offer is still too low after three rounds of negotiation and they won't play ball there's a strike. The opinion polls get uncomfortably important by year five when the election looms and you suddenly wish you'd spent more on welfare and education to keep the plebs happy. If your popularity has slipped too far at election time you see 'The Opposition' chalking up seats at breakneck speed like a phone unit counter on a call to New Zealand.

The program is primarily intended as a teaching aid for Economics students, and the accompanying interesting booklet gives a nice little outline of the economic structure of Britain. Things tend to be a bit drab in presentation, and the endless lists of figures can dull the brain a little; but then it could be argued that this captures the atmosphere of the typical budget very well. There's a homespun look about the screen formats and graphics and there's even the odd spelling mistake or two.

The economic simulation is obviously very simplified but is surprisingly realistic and subtle – inconsistent policies destabilise your economy uncomfortably quickly and it takes a lot of fine tuning of figures to keep inflation, borrowing, pay claims and public support under control. Yes Chancellor works on four levels of difficulty, from one ('testing the water') up to four ('walking on water'), and the difference may not be obvious until you suddenly realise on year three of the top level, with more or less the same figures that charmed a nation back in level one, that inflation is rampant, the economy is crumbling and the peasants are revolting. It's great fun testing out your pet theories and seeing how quickly things get out of hand!

A model economy

There are bound to be dead spots with any model as simplified as this and the author, quite laudably, encourages players to think critically about it. Tax, for example, is set as one single average figure, so there's no way of trying out direct versus indirect taxation; investment in industry is rather oversimplified; and unemployment is dealt with rather dismissively (though some might say this is only a reflection of real life). Rampan unilateral disarms can cheerfully spend £0 million on defence year after year with apparently no effect except on the opinion polls, despite scaremongering messages such as TENSION HIGH – FOREIGN THREATS; make what you like of that.

The model was, according to the booklet, pre-tested extensively with students. Hence it is very

straightforward, very simple to follow and requires no prior knowledge of anything at all. It's also a very sound program which seems fairly immune from abuse with inconsistent or plain daft figures. The obvious market is for schools and universities, where it will be great fun and very instructive.

As a serious simulation, it is somewhat simplistic, and as a game, the very simplicity of the program means the possibilities are limited and the novelty of watching your self-defined economy churn around can pall quickly. But even at home it would make a nice little executive toy for those who fancy something less trivial than sci-fi adventures, and in the words of the old Yorkshire saying, for them as likes this sort of thing, this is the sort of thing as they'll like.

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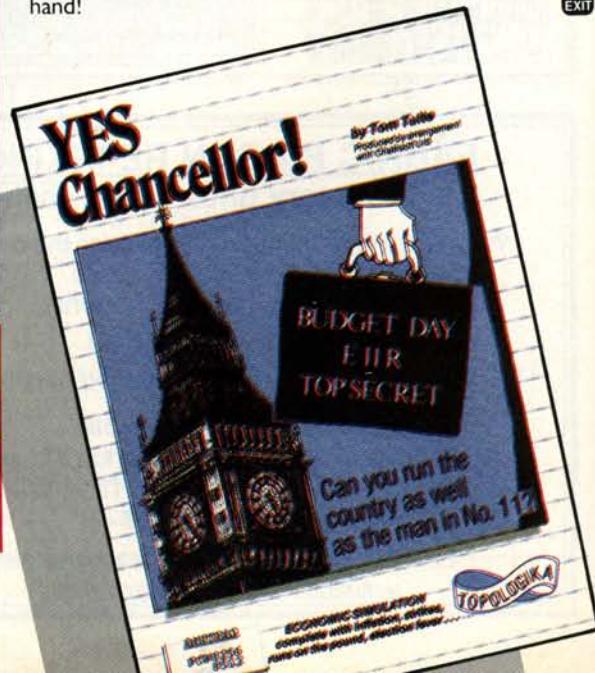
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ACCOUNT FOR YOURSELF

Ian Berry concludes his DIY accounting series – watch out for rampaging gangs of redundant accountants.

In the first two articles we looked at 'single-entry' book-keeping, and now the time has come to look at 'double entry'. Book-keeping always has been and always will be tedious, and computers only take some of the tedium away. If your business is nearly all cash transactions then you don't need double entry and it would be a waste of time. The best advice every time is "keep it as simple as you can". This not only reduces the work, it also means fewer mistakes.

What is different about 'double entry' book-keeping? To understand this you need to know a bit more about 'transactions'. A transaction is an exchange: first you exchange goods (or services) for a debt, then you exchange the debt for cash to complete the 'deal'. If most of your activity is in this form you need to keep records of every individual transaction to know which deals have and have not been completed and what they will cost to complete. It is no good entering only deals completed as you would not get a true picture of your profits or situation at any time.

Remember the four-file system from last month? This is fine if all your business is cash, or if there are few enough credit transactions to keep a mental picture of what is outstanding. Once you go beyond this more detailed records are needed. This is done with books called 'ledgers' which are simply collections of individual accounts.

An account is simply a list of all transactions in some group. They might all be with a specific person or all for a specific service. Every transaction will affect two accounts, usually one personal and one impersonal – here are some examples:

- 1 You receive your electricity bill for the quarter
- 2 You buy some letterheads from J. Pelforth & Co. on credit
- 3 You pay wages in cash to your staff
- 4 You pay your electricity bill by cheque

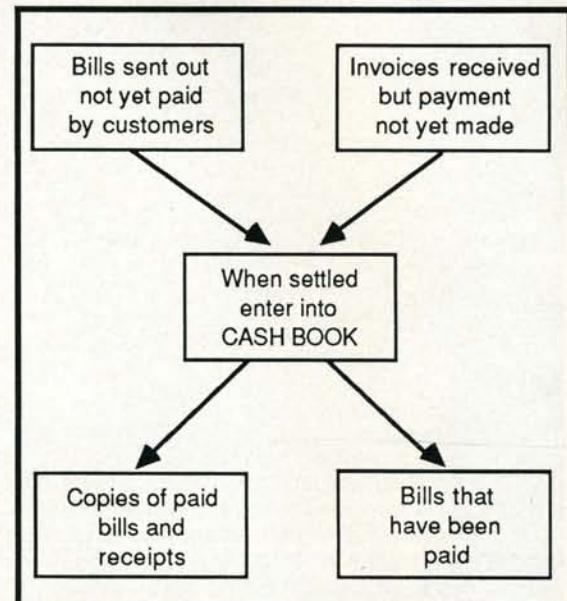
Errors

People think errors only result from negligence – in book-keeping they are a fact of life. The aim is to keep them to a minimum and – most important – to find and correct the ones that are made. In computer book-keeping errors can only come from copying and to identify them we use check-totals. When a check-total does not match it can only be one of two errors – simple copying or transposition.

Copying errors are caused by numbers looking alike (check your writing when you are tired to see which

might give trouble and watch for them).

Transpositions are harder to spot since you often make the same mistake in checking. The 'good' thing is transposition is easy to identify – the difference always divides by 9, and the number of times 9 goes into it is the 'gap' between the digits. For example, if you write 93 for 39 the difference is 54 (6×9 and $9-3=6$). Of course, the same 'gap' can come from transposing 28, 17 or 60, but you have reduced the field!



Taking each in turn:

- 1 You have been using electricity all through the quarter but since you did not know how much it was costing you, the bill is the first thing to go into your books. You must show the cost of electricity, in an 'impersonal' account for electricity, and you must also show the amount that you owe, in a 'personal' account for the electricity board.
- 2 You have bought the letterheads so put the cost to stationery account and you owe Pelforth's for them so enter this in Pelforth's account.
- 3 This is a 'cash' transaction, but it still requires two entries, one to wages account and one to cash account.
- 4 Now you are clearing the debt to the electricity board so adjust their account, and adjust the bank account for the cheque you have drawn.

What isn't yet clear is exactly how to go about writing these details into the accounts. This is where debits and credits come in. As a general rule, the left side of the account (debit) is used when something is 'taken in' and the right (credit) when something is 'given out'. Don't say 'received' and 'paid' because that could only refer to cash or cheque accounts and the rule must apply to all accounts – both personal and impersonal. The second general rule is that, on personal accounts debit balances (or 'debtors') represent money owed to you and credit balances (or 'creditors') money that you owe to somebody else.

Although thinking of everything in terms of debits and credits is useful, its importance can be exaggerated and you can choose to ignore it. You can instead talk about

accounts (or more correctly the balances on the accounts) increasing and decreasing – so long as you understand what each account is doing.

For convenience, all the accounts are divided into three separate ledgers: First there is a Sales (or Debtors) ledger – containing a personal account for each customer (or debtor) who might owe you money. Second, a Bought (or Creditors) ledger – containing a personal account for each supplier (or creditor) to whom you might owe money. Third, there is a Nominal (or Impersonal) ledger – containing all the accounts that are not 'personal'. This may be (but very rarely is) divided into a 'Revenue' ledger (containing income and expense items) and a 'Capital' ledger for the assets and liabilities.

In order to feed the information into these ledgers you have four books of 'original entry'. Compare this to the single journal mentioned in the first of these accounts articles. The four books are:

- 1 Sales Day Book showing individual sales made. This might be analysed into a column for each category of goods sold. The only difference between this and the left-hand side of the 'spread-sheet cash book' shown earlier is that you enter the sales made and not the cash received.
- 2 Bought Day Book for purchases of goods and services – again this tends to be analysed like the right-hand side of the spread-sheet cash book and shows purchases regardless of whether they have been paid for or not.
- 3 Cash Book – Showing all cash receipts and cash payments and balanced off periodically to show the cash in hand.
- 4 Bank Cash Book – As the cash book shows the cash received and paid, this book shows the money paid to bank and all the cheque payments.

With manual systems there would be a written record at each step of the way, and this 'hard copy' would remain intact for any subsequent checking that might prove necessary (which is called doing an 'audit') or to amplify the information if necessary ('analysis'). This paper purchase came to be known as 'the audit trail'.

When accounting is switched to a computer system, there is no longer any need for much of this hard copy material. The initial entry will come from a document but once it has been keyed in, all future transfers ('postings') will be made electronically and, at the year-end, much of the information needed to verify the final accounts will no longer exist. In order to overcome this, an 'artificial' audit trail is laid to keep the accountants happy. The irony is that this artificial audit trail actually looks remarkably like the four old manual 'day books' listed above!

It wasn't so hard after all

It might be a good idea to look back over the past couple of articles and sum up what accounting in small businesses is all about. Hopefully some of the layers of professional mystique that surround book-keeping have been stripped away, to show you that it is only a form of specialised diary-writing.

The amount of information you have to record depends on the size and type of the business. The bigger the business the more transactions; cash traders need fewer records than credit traders; and limited companies have to be stricter than unlimited operations. A cash business will not need a 'full set' of ledgers, but a credit business might.

The simplest form of book-keeping is a diary, and if that satisfies all your needs why do more? Although there are computer programs that purport to do this for you, it is probably just as easy to do it by hand. The next level of sophistication is the analysed cash book that many people would keep manually, but there are cases where a

Limited companies

I have tended to ignore the requirements of limited companies. What is different about them? Well, a business is a business and everything said about businesses still applies, but a limited company has an unexpected legal aspect. At law, such a company is a *separate person*. If you start an ordinary business, although you would want to keep the business records separate from personal affairs there is no *legal* separation and if things go wrong you are personally liable for the debts of the business.

With a limited company, even though you might 'own' it, it is still a *separate legal person* and if you are to get anything out of it the company would have to employ you. If the company falls on hard times the creditors would not be able to sue you

for the company's debts.

Because of the 'separate legal persona' some quite stringent rules apply to limited companies. The company has to publish an annual report containing a set of accounts by filing it with the Registrar of Companies every year (where it is open to public inspection), and these accounts have to be audited by an independent auditor who satisfies himself that the accounts show a 'true and fair view' of the company's affairs. This means the book-keeping must be of a slightly higher standard. That is not to say that we who are not limited companies can put any old rubbish into our accounts – at least not if we want the Inspector of Taxes to accept them! – but we don't suffer the stringent audit that a company does.

computer could be helpful, and a spreadsheet program properly used would do all you need and give you all the information you require.

The third stage is 'double entry'. For this, a computer would be very helpful if only because it would know where to post the other side of each transaction.

This series has deliberately not reviewed the available programs but has set out to help you to make up your mind what you want your book-keeping system to do for you and, if you choose to use the computer, to help you work out some of the questions you would want answered in choosing your program. If you have an accountant then ask his advice, but remember that few accountants have personal experience of microcomputer accounts programs – all he can do is analyse your needs. The best person of all to talk to would be somebody in your own line of business using the system under consideration – but not many people will admit making a bad choice!

Debits and credits

There are many non-technical uses of these words which tend to confuse the innocent, but probably most confusing is that on bank statements credits are money paid in and debit balances are 'money in the bank' while debit entries are cheques paid out and debit balances are overdrafts. This is because your bank statement is a copy of your

('personal') account in the bank's ledger. When you pay in money, the bank debits their cash account and credits your personal account to show the owing you this money – your own books would show the reverse since you would credit your cash account with money paid over and debit the bank to show they owe you the money.

Finally, once you have decided on a system, bought the program and got some practice on it, you will need to set it up. This is a pretty daunting task and you must set aside quite a lot of time for it. Once done, you must run both systems (the new computer system and your old manual one) in parallel for several months to check you get the results you expect. Stopping the manual system on the day that you start the computer system without a period of 'parallel running' is known as the 'sudden death' method – and for many businesses it is just that!

exit

● Ian Berry is a senior lecturer in the Department of Accounting and Business Computing in the Portsmouth Polytechnic Business School



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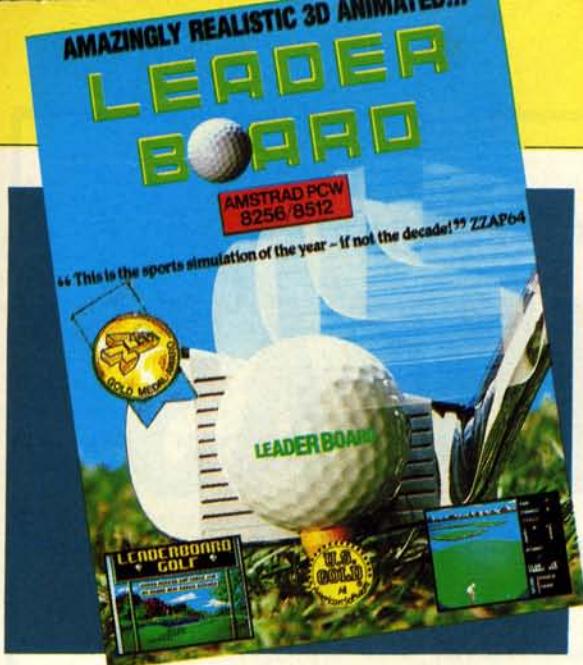
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The game details are displayed on a vertical strip at the right hand side of the main display. These include the hole number, the par, the course number, the player's name and score, the club currently in use and the distance to the hole.

The power and 'snap' indicator is situated bottom right and needs to be watched carefully in the build up to a shot. By releasing the fire key at the right time you can

use snap, which on amateur and professional levels helps you to hook or slice the ball.

If your shot lands in the water, as mine did many times, you must take another. There are three woods, a pitching wedge and nine irons to choose from, so you might need to consult the playing instructions for advice on using these to the best advantage.

Once on the green the putting sequence begins, power indicated by a longer bar than previously, the slope (or borrow, in putter's parlance) of the green indicated by a line to the right of the golfer, just as the wind before. If you hit the ball too hard it will bounce off the edge of the hole and it's even possible to hit the pole.

This is a good game for golf fans and non-fans alike – an extremely playable simulation.



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Given the result of the general election, PSI-5 Trading Company might prove a little depressing for the less successful voters amongst us. No socialist utopia in this vision of the 35th century... on the contrary, private enterprise is alive and kicking.

You take the rôle of captain of a space freighter with responsibility for transporting a variety of goods across the Parvin Frontier. These are everyday things such as Grananas and Prebliks which, depending on your preference, you must deliver safely to one of the available destinations.

The fact that the Parvin frontier is swarming with space pirates makes your task that much more difficult. No doubt these represent the descendants of the present SDP and other disaffected minorities.

One of the most interesting features of this game is the fact that you can choose your own crew members – six from a collection of thirty. Now you can't get a much weirder collection than this bunch, not unless you regularly attend council meetings.

Nearly all of them have peculiar names, which are as original as they are stupid. A personal profile of each is available to make your choice easier. Once this has been completed there are three missions to choose from. And so to the main game.

The screen displays two windows, one a view from the cockpit of your ship, the other reserved for a picture of any crew member who might want to communicate with you. Below these is an instrument panel which includes all the usual sorts of information – speed, direction, shield status, weapon power and so on.

The space freighter has five departments: weapons, scanning, navigation, engineering and repair. Each department may be accessed by choosing the appropriate abbreviated words displayed below the instrument panel.

A whole range of options and data is therefore available for each department and is displayed in the lower half of the screen. This, in part, is where the game seems to get lost, swallowed up in a profusion of detail – options, sub-options, sub-sub options....

PLUSES

- The movement of the golfer is excellent
- Perspective changes according to the position of the ball and your changed position
- A realistic simulation

MINUSES

- The program is a bit slow between shots

GRAPHICS
ADDICTIVENESS

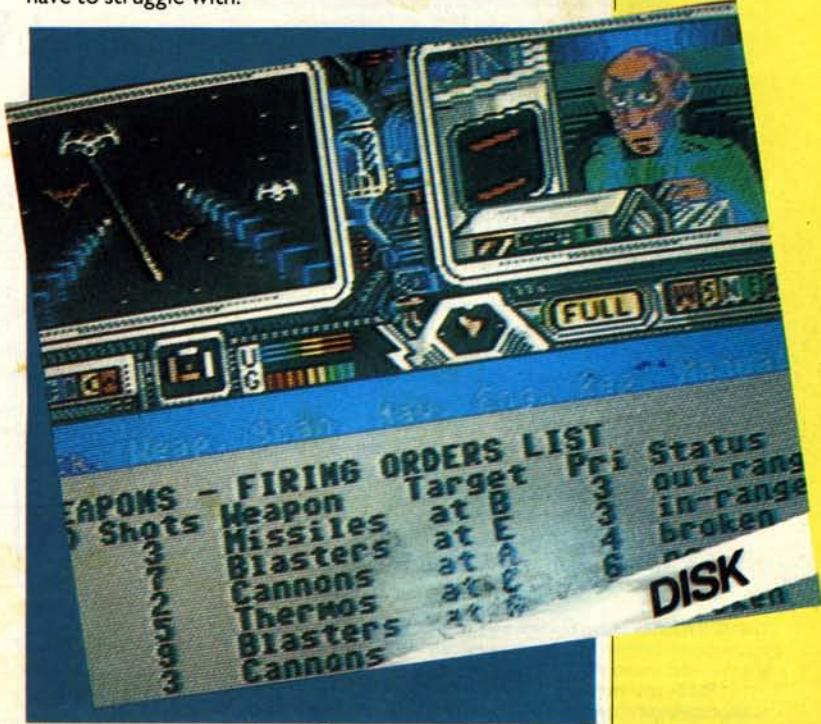


LASTING APPEAL
VALUE VERDICT



Unfortunately I didn't really enjoy this experience. My crew members Boris, Nargo, Bronxaag, Craven and Swiglitz, seemed to bombard me with information which I found it very difficult to act upon.

If you're prepared to be patient then you might find a game in here worth playing but it's certainly one you'll have to struggle with.



PLUSES

- Complex and demanding
- Detailed and meticulous

MINUSES

- Graphically uninteresting
- More frustrating than demanding
- Not the most playable of games

GRAPHICS
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A computer is good at doing things over and over again. It never tires. It never gets bored. Dr. Logo allows you to take advantage of this in a number of ways: the example listings in last month's article covered several of these techniques in a fairly rapid overview, but the time has now come to take a more methodical approach.

The simplest method of repeating a series of instructions is to use the command (or 'primitive') `repeat`, as used last month in the procedures 'square' and 'house'. This primitive tells your PCW to carry out precisely the same set of instructions a specified number of times. Type in this example:

```
to polygon :number :side
repeat :number [fd :side rt (360/:number)]
end
```

This procedure will draw a regular polygon with the number of sides and the length of each side chosen by you. Clear the screen and type in `polygon 3 50` (followed, of course, by [RETURN]). Dr. Logo will draw an equilateral triangle for you with sides of 50 units each. If you now try `polygon 6 50`, your equilateral triangle will be surrounded by a regular hexagon. Experiment with a few inputs of your own.

```
to manypoly :number :side :times
if :number = (:times + 1) [stop]
polygon :number :side
manypoly :number + 1 :side :times
end

to polygon :number :side
repeat :number [fd :side rt (360 / :number)]
end
```

Listing One

The `repeat` command in 'polygon' uses the value you give to the variable "number" (see the box for a summary of how Logo deals with variables) to repeat the instruction-list within the square brackets the specified number of times. In other words, when you drew a triangle, it repeated the instructions three times; when you drew a hexagon, it repeated them six times. The length of each side is specified by the value you give to the variable "side". And, since the outer angles of any polygon always add up to 360 degrees, the angle turned by the turtle after drawing each side is computed by the expression `360 / :number`.

The chief point to remember about `repeat`, however, is that the list of instructions repeated by it remains constant each time it is carried out. What do you do if you want to alter the instructions in some way each time they are invoked? Dr. Logo kindly prescribes two methods for achieving this.

The more powerful method offered by Logo is known as *recursion*. You have, in fact, already made use of recursion in the 'waterflea' procedure that you typed in from last month's article. Glance back at the listing for 'waterflea' and you will see that the last line of the main procedure seems to tell the computer to go back to the beginning of the procedure and start all over again. This is not quite the whole truth of how recursion works, but it will do to be going on with.

'Waterflea' made a slightly redundant use of recursion in that, like `repeat`, it simply carried out the same instructions over and over again (although because it uses the `random` command the same instructions have a somewhat different effect each time they are invoked).

OVER AND OVER AGAIN

Turtle-fancier John Connell continues his Dr. Logo series with a look at the black arts of iteration and recursion.

To show you just how flexible recursion can be, type in the procedure 'manypoly' shown in Listing One.

The intention of 'manypoly' is to use the already defined 'polygon' procedure to draw a series of polygons, with each succeeding shape having one more side than the previous one. If you start with a triangle, this will be followed by a square, a pentagon, a hexagon, and so on, until it draws a final shape with the number of sides you choose to end at.

Check the 'manypoly' listing, clear the screen, and type `manypoly 3 50 8`. This will draw a triangle surrounded by a square surrounded by a pentagon and so on, until it reaches completion by drawing an octagon (the 'stopping point' is specified by the value given to the variable "times", which is 8 in this case).

As in waterflea, `manypoly` 'calls itself' in the last line. However, with each time through (or *pass*), the value of "number" is incremented by one so that each succeeding shape has one more side than the last. The `if` line tells `manypoly` when to stop. If this was deleted from the procedure, `manypoly` would simply keep going until the [STOP] key was pressed. Again, play around with different inputs to `manypoly` and with the definition of the procedure itself.

There are many ways of using recursion, of which this is only a very simple one. It is a complex concept which we'll come back to later in the series.

```
to spiral :number :side :increment :angle
fs cs ht
label "overhere"
fd :side
rt :angle
make "side (:side + :increment)
make "number (:number - 1)
if :number = 0 [stop]
go "overhere
end
```

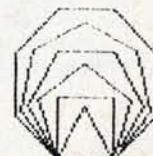
Listing Two

Go to work

The other method prescribed by Dr. Logo for repeating a set of instructions which are slightly different with each 'pass' is to make use of the primitives `go` and `label`. These allow you to switch the flow of control within a procedure to a different point in the program altogether by just jumping from one place to another. This, as you will see later, has a wider use than simply to set up a 'loop' in a procedure. But, for the moment, type in the 'spiral' procedure – Listing Two.

Again, check the listing, type `spiral 100 20 5 45` and sit back.

The result of
manypoly 3 50 8



Marginally amusing

From Connell's English Dictionary: RECURSION
(riké:ən) n. SEE RECURSION

In 'spiral', each time the program reaches the line with go in it it jumps to the line with the relevant label. So, the line label "here tells Logo that whenever it is told to jump to "here, this is where to go. The flow of control in the program is switched from go to Label each time it reaches the last line. Since the label is set up before the go command occurs we have, in effect, set up a loop.

Within the loop a number of things happen. First, a line is drawn and the turtle is turned through the number of degrees specified by the value given to "angle." "side" is then increased by the value given to "increment", and "number" is reduced by one. The if line again tells Logo when to stop (when "number" has been reduced to 0 it means that the number of lines you asked for has been drawn). When go switches flow of control back to "here", the process starts again, but this time with the length of the line to be drawn increased.

fs (which stands for full screen) in the first line simply gives over the whole screen to turtle graphics, although whenever you use fs, you have to follow it, as happens in 'spiral', with cs before that full screen can come into play. ht stands for hide turtle, and that is precisely what it does – it has the added benefit of speeding up anything you draw on screen (the opposite of ht is st, standing for show turtle).

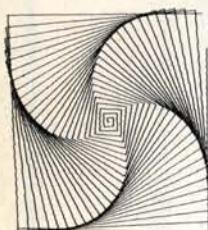
Now try spiral 100 20 5 60. If you go through the above explanation with these numbers you will see that, to take each input one at a time, the procedure draws a spiral which has 100 separate lines, the first line is 20 units long, but this increases by 5 units successively, and the angle of turning between each line drawn is 60 degrees.

This fairly simple procedure can achieve some quite superb effects. Try the following inputs:

```
spiral 50 10 10 90
spiral 100 5 5 91
spiral 30 20 10 270
```

Now try a few of your own!

The result of
spiral 100 5 5 91



Spiral, incidentally, could be much more efficiently programmed by using recursion, but I have used the less efficient method (in this case!) for illustrative purposes. You might like to try your hand at re-programming spiral to use recursion.

```
to whimsy :number :side :angle
repeat :number [fs cs ht recur :number :side
:angle golabel :number]
ts ct pr [That's all folks!!]
end

to recur :number :side :angle
if :number = 0 [stop]
fd :side
rt :angle
recur :number - 1 :side - 5 :angle
end

to golabel :number
ts label "here"
make "number (:number - 1)
if :number = 0 [stop]
setcursor (list random 70 random 30)
type "boo!
go "here
end
```

Listing Three**Whimsical examples**

To finish this month, if you type in the listing for 'whimsy' (Listing Three), and then type whimsy 10 100 120, you will be assailed by a quite useless program which, nevertheless, demonstrates all three methods of repeating instructions which you have looked at. 'Recur' draws a spiral-like pattern which, unlike 'spiral', draws lines which decrease in length. When this is complete, 'golabel' splatters a silly message randomly across the screen a number of times (specified by you in the variable "number").

These three procedures also contain a number of interesting points to ponder. The value of "number" in 'recur' decreases to zero; yet when 'golabel' is called later on, the original value of "number" is restored. This is because operations on "number" inside 'recur' don't affect the value of "number" as seen by 'whimsy' – they are separate variables which happen to have the same name.

Just as you should follow fs with cs, you usually follow ts (standing for full text screen) with ct (standing for clear text). The command setcursor, which allows you to print anywhere on the text screen, is normally followed by a list containing a pair of text coordinates – for instance, setcursor [10 20] moves the cursor to the 10th column and 20th row, so that any following print commands will start printing text there.

In 'golabel', the setcursor command is used in a special way: because the values are worked out by random only when the program is run, you can't put them in square brackets like setcursor [10 20]. The [10 20] is a 'list', and you need the special Logo command list to make a list out of unknown variables at run time so that setcursor can understand it. So, as used in 'golabel', supposing random 70 produces 45, and random 30 produces 25, then

```
setcursor (list random 70 random 30)
really means
```

```
setcursor [45 25]
```

type acts just like pr by printing text on the screen but without a following carriage return; in other words, the cursor stays on the same line ready for the next type command.

What are variables?

Using variables in a program allows you to vary the effects of the program simply by changing the value of the variables. Logo deals with variables in a very precise way which is worth taking time to understand.

In simple terms, Logo differentiates between the *name* of a variable and the *value* allocated to that variable. If you put a quotation mark ("") in front of a variable, this means you are referring to the name of the variable, while a colon (:) in front means you want the value of a variable.

To demonstrate the difference, type these lines, each followed by [RETURN]:

```
make "var1 10
make "var2 "Hello
make "var3 [How do you do?]
```

This use of make is called *direct assignment* of variables. The method used in 'polygon', where you assign values by setting up the variables in a procedure with values on the calling command line is known as *indirect assignment*. Now try:

```
pr :var1
pr :var2
pr :var3
```

In the first three statements, you directly assigned values to the three variable names. The next three statements printed out their values.

If you type:
pr "var2
all that happens is that the word 'var2' is printed out. Note that the value assigned to a variable-name can be a number or a word or a list.

Variables in Logo can be *global*, when they can be used by all the procedures currently in the workspace, or *local*, when they can only be used by the procedure in which they are assigned or in any further procedures called by that first procedure.

Using the primitive make, as in make "var1 10, creates a global variable. Indirect assignment, made implicitly by calling a procedure with values as in 'polygon', creates local variables. You can, in fact, use the same variable-name in more than one procedure when you use local variables. Generally, local variables make for faster and more efficient programs than global variables.

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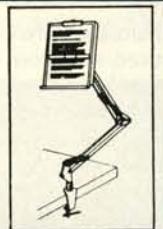
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▲ The starter pack – Red Leader, Red One and Red Two

REDS UNDER THE BED

Rob Ainsley steals a look at a way of controlling the whole world with your PCW

RED BOXES

£133.00 (starter pack) • General Information Systems • 0480 87464

Fed up with videos that record programmes you don't want to watch and play them back when you're not in? Tired of heating which gets the house nicely warmed up just after you've left for work? Do you nurse a secret desire to wire up alarms in your house to give any intruder a real start, the sort you'd give a damp Morris Minor? Now you can have ultimate control over every electrical gadget in your house with the Red Boxes home command system, programmable with your PCW.

The basic idea of the Red Box system is consummately simple: you have a command unit and a variety of auxiliary units such as electrical sockets, movement sensors, alarms, temperature gauges, humidity detectors, light meters and so on. The command unit can be programmed to control the other units, and these units can in turn trigger the control unit. A very basic example is with the control unit, motion detector and electric socket units: when the motion detector reports

somebody in the room, you can arrange for the control unit to turn on the alarm plugged into the socket, or maybe start the heating going.

All this communication between units is done by sending tiny coded pulses around the house's electrical mains system, so the boxes can be split up and placed anywhere in the house without trailing long connecting leads around. A security code ensures no-one can tamper with your devices, and a battery back-up caters for power supply sabotage.

So where does the PCW come in? You use it at the setting-up stage when you need to tell the control unit 'Red Leader' – what to do. By connecting your PCW to Red L. via a standard serial interface, you can use it to program the system to do your bidding, rendering your entire household 'smart'.

Red Army

The boxes themselves are efficient-looking, hi-tech, a vivid Habitat red, and about the size of a hardback book. They're intended to be wall-mounted, and look quite smart when in position – there's a military, organised feel to the whole bundle, as evinced by the names Red Leader, Red One, Red Two, and so on. In all there are six or so Red units you can buy to link together, each for a different function as listed in the 'Red Range' box.

Unfortunately the system wasn't really intended for PCWs, and making the two work together is a bit of a botch. With a serial interface fitted to your PCW (not supplied as part of the Red Box kit) you use the special cable to connect the PCW to Red Leader. You now start up CP/M and run the standard MAIL232 program to be found on the LocoScript startup disc.

Then the fun starts. As explained, Red Leader is a computer in its own right. It runs a version of BASIC with some special additions to allow it to send commands to and fro, and to make use of its facilities you have to master these commands. While this is fairly straightforward, be warned that to be able to use the Red Box system usefully you will need some programming skills.

The 'Getting Started' section in the User Guide and the gib descriptions of what you will see when everything bursts into life are completely irrelevant to PCW owners; the 'Red Control' program – the opening menu where you tell it which apparatus you're going to be using – either doesn't come up at all, or every other letter comes up in a sort of telegraphese précis, and the screen fills inexorably with a printout of the time. In fact the menu isn't expected to work on the Amstrad, and the object is to get into Red BASIC straightaway, in which mode everything can be made possible.

Having quit the opening half-menu if it's come up, a] sign appears on the left of screen. This is actually the Red BASIC prompt, and you can then start programming your auxiliary Reds which are no doubt hooked up for test purposes to the light in the next room.

Boxing Clever

Red BASIC is very similar to the version familiar to PCW owners but has a few additional commands for functions you can put to good use with the boxes – for example, a TELL command switches the other boxes on or off or sets them up into a given state; an EVERY command will perform a specified operation after every given period of time, maybe a check of some kind; REPEAT will do just that until a given condition is reached; WHEN specifies some action to be performed when a certain event occurs, as in "WHEN the sensor detects movement that shouldn't be there, GOSUB exterminate". There are also a bundle of time and date functions so that you can set things to go on and off at certain times, for certain periods, on certain days if you wish.

Getting to know how to use these is, like most of the more sophisticated parts of BASIC, a time-consuming operation with a lot of trial and error, but a lot of fun when you get it right and confuse your cat by getting the light to come on every time it passes. The manual suggests that you need no knowledge of programming to be able to use the system, which seems rather dubious. You would almost certainly need to be quite confident in normal BASIC to make sense of its Red counterpart.

Having organised and run your simple cat-confusing program, you can disconnect your PCW from Red Leader, return to LocoScript or whatever, and leave Red Leader plugged in permanently to keep the program running (the electricity consumption is minimal). By keeping a bank of programs on a PCW disc you can, in a couple of minutes, set up your alarm system or your heating control by reprogramming through your PCW terminal, and run things concurrently with a little programming ingenuity.

```

10 REM Turns light on for two seconds whenever cat passes
20 INSTALL("LAMP1",1,927923,2,1104478467)
30 INSTALL("SENSOR",1,401842,1,235172099)
40 TELL("LAMP1","OFF")
50 WHEN "SENSOR":GOSUB TURMON: CONTINUE
60 TELL("SENSOR","OFF")
70 REPEAT UNTIL FALSE
80 .TURMON
90 TELL("LAMP1","ON")
100 T=TIME: REPEAT UNTIL TIME=402 AFTER 1
110 TELL("LAMP1","OFF"): TELL("SENSOR","OFF")
120 RETURN

```

▲ An example of a program in Red BASIC. This one tells Red One to turn on the lamp whenever your cat walks past the motion detector, Red Two.

Unsimply Red

However, there are one or two oddities in the way Red system communicates with the PCW which could cause a lot of confusion. First, not only are the cursor keys inoperative, but there is no way to amend or edit a line; despite the fact that you seem to be able to do so, when you come to list the program the line comes out as rubbish. In fact the computer only inserts the corrected text after the incorrect version and the program won't run. So, if you make a mistake, the only thing you can do is to retype the whole line again.

Second, when you list a program, all lines on or after the sixth or so seem to come out as a jumble of random nonsense. The lines are still stored OK in Red Leader's memory, and you can see them by listing from wherever the corruption started, but it does make listing cumbersome. Third, if you try to use the Red BASIC SAVE command, the whole thing crashes and you get a stubbornly intractable screen which won't recognise anything you try to type in.

Fortunately there is a way round all this. You have to prepare your listings in the BASIC text editor, RPED, back in CP/M, where you can edit and correct to your heart's content, and then transmit the file to Red Leader with the standard MAIL232 command to send a file. In this way you can store and retrieve any number of programs you like, but editing and permanent corrections have to be done back in RPED.

The Little Red Book

The package comes with a User Guide and an optional Project Manual. The guide gives a brief overall description of the system, describes how to get it going (which doesn't apply to PCW owners, of course) and outlines the functions used in Red BASIC. By not having the menu screen displayed on the 8000 series, one option you lose out on seeing is the intriguingly named 'F-offTime'.

Red range

RED LEADER: £61.95

The control unit
RED ONE: £36.95

Programmable mains socket which can switch on any mains device and supply up to 13 Amps
RED TWO: £36.95

Heat/motion-sensitive detector, for detecting people.
RED THREE: £61.95

Analogue-to-digital converter, for linking temperature sensors, smoke

detectors and so on into the system

RED FOUR: £101.95

RS232 interface, for communicating with other computer systems
RED FIVE: £51.95

Programmable alarm unit
BATTERY BACKUP: £21.45

PROJECT MANUAL: £10.95

STARTER PACK: £133.00

Comprises Red Leader, Red One and Red Two

The applications are only bounded by your imagination and there are several suggestions in the manual. You can, for example, fix up a smart heating system which not only comes on and off at certain times of day, but which will shut down when there's no-one in the house, or start up if there is. And while away from home, you can leave your household management safely in the electrical hands of the boxes instead of leaving your key with the neighbours. You might set the lights to come on and off at appropriate times during the evening for random periods to confuse unsmart burglars; in winter, you could set the heating to come on if the temperature drops to a pipe-bursting level.

If you can't stand the heat...

Red Three, the most versatile of the boxes, is described as a "general purpose analogue and digital input/output device".

Most conventional electrical devices produce a varying voltage as their output, known as 'analogue' operation. For instance, an electrical thermometer might indicate the temperature by outputting a voltage between zero and 12 volts. Computers – of which Red Leader is one – can't cope with these variable levels of voltage, but demand that everything is

either on or off; this is 'digital' operation.

This is where Red Three comes in. By converting small voltages into digital signals comprehensible to Red Leader it enables the system to use and respond to input from devices which measure temperature, humidity, light levels, noise, smoke and so on. Red Leader can be programmed to take some action when the readings on these instruments strays outside a given range.

You can use the boxes as an alarm system, to alert the flying squad, bathe the area in floodlights and set off a 106 decibel Red Box alarm if Bert, Nobby and Stan so much as move an inch inside your home, or if your tortoise unexpectedly comes out of hibernation.

At a couple of hundred pounds for a basic system this is not cheap, and the awkward way in which Red Leader just works with the PCW means it would be a real trial for beginners. If all you want is a timer and a burglar alarm, it would be easier to buy a £15 mechanical time switch and a burglar alarm. But, if you have some experience of BASIC, a bit of imagination, and you're image-conscious, you may well find the idea of having a centrally controlled, hi-tech, smart household well worth the money and effort.

Serial Interfaces

A glorified adaptor which fits nicely into the back of your monitor and enables you to hook up to the outside world – you need one to communicate with Red Leader. Amstrad's own one is called the CPS8256, and costs around £60. This is the same interface unit you buy to be able to use non-standard printers with the PCW.

PLUSES

- ⊕ Extremely versatile
- ⊕ Applications limited only by your imagination
- ⊕ Great for your image

MINUSES

- ⊕ Works awkwardly on the PCW
- ⊕ You need programming skills
- ⊕ Smart potential is easily wasted on trivial applications

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8000 Plus, December 1986.

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DOUBLE NO TROUBLE

Accounts packages are commonplace, but good ones are to be treasured. Alec Rae checks out Digma's offering.

Business Controller

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There are accounts packages for the PCW that start their manuals with a crash course on double entry book-keeping. If there was ever anything in the world more likely to put people off putting their accounts on a PCW it must be a crash course on double entry book-keeping.

Everyone knows that double entry accounts are a good idea but it is not everyone that has the time or the inclination to learn the theory. Anyway, computers are supposed to be clever enough to produce double-entry accounts by themselves without the user having to swot up on accountancy theory.

On the other hand there are the people who have a good grasp of accounts but have just bought a PCW for the first time. They could be more confused by the computer jargon in the manual than the accountancy jargon.

It would be unfair to say that Digma's new Business Controller is designed specifically for these two groups but it is probably these people that would feel the investment of nearly £100 in this package was justified.

The importance of manuals

It often seems to be forgotten but the manual for accounts programs is as important as the program itself. If the user finds the manual difficult to get to terms with or even over-simple and condescending they will not get full benefit from the software.

Digma have got round this by dividing up the manual into sections directly suited to different users' needs. Most important is the section for your accountant which allows him to extract the information from the figures for his needs, but there are also sections for beginners (including a glossary of computer terms) and quick start section for "experts". There is a tutorial and a thorough reference section.

Before you start you have to run a configuration program which decides everything from size of paper you will use for reports to whether you want your accounts worked out in Profit and Loss or Income and Expenditure form, and whether the books are for a limited company or a partnership, and so on.

The operation of the program is also simple enough for the beginner although it provides enough sophistication to allow you to grow into it. The automatic double entry accounts are carried out by a series of prompts and balances that keep you going until you get it right.

Take a batch...

In a serious effort to cut out mistakes the program uses a batch system. Before you start to list your entries you sort them into batches — all the cash expenditure, for example. You count the number of entries in the batch and add up the total money involved. You can enter up to 100 transactions in one batch.

Before you start to enter data you are asked for this total and how many entries you will make. The program then checks if there is enough room on the disc to take this information.

Before you actually do commit this information to disc you have to balance the real figures against the ones you gave at the beginning so you can easily spot mistakes. This does make the entry of data considerably longer and more tedious than with a lot of programs but, then again, looking for mistakes later can be even more tedious and time consuming.

If a mistake does slip through there is a good audit trail facility which will find you a specific entry or series of entries in a number of different ways — by date, account number or reference. Then you can put it right using the journal section.

One feature of the program is that data can be spread over several discs with the program keeping track of the situation and prompting you when to change. This is a vast improvement over the systems where you have to decide in advance how many entries you are going to make in a given period.

There are one or two inventive touches that are pleasing. For instance you can give each of the function keys the name of a company you deal with regularly so that the name can be produced at the touch of a button instead of laboriously typed out several times a day. **EXIT**

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- Cuts out the need to learn double entry accounting theory

MINUSES

- Although the "batch" method of entries is thorough it could be slow and tedious.
- A bit pricey

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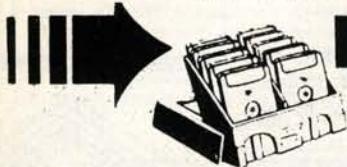
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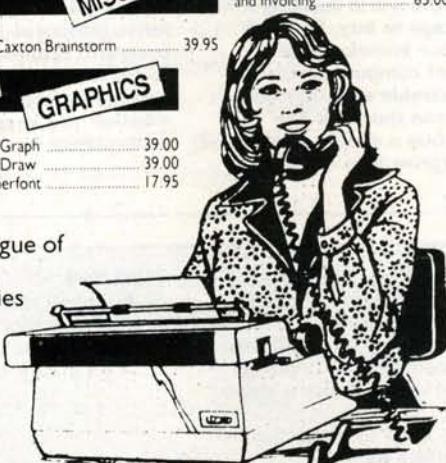
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LANGFORD'S PRINTOUT

A page foolishly handed over to SF author DAVID LANGFORD who just happens to own an AMSTRAD



ARGUMENTS AGAINST

Several reasons why I held out for years against the lure of the word processor came back to me recently, as I sifted through old issues of *SFWA Forum*. This is a desperately secret gossip-magazine for members (only) of the Science Fiction Writers of America – secret for good cause, as it would do these famous and unfamous authors no good at all if the public learned how boringly they can write....

The boredom would regularly escalate into actual pain when their subject was the joy of word processing. "Look" said writer X "I was able to create this lengthy letter in only five minutes thanks to the wonders of technology. "Gosh. Wow." writer Y would confirm "I don't have to type two drafts of my books any more, and my output has trebled." "It's fantastic" writer Z would go on "I can actually change every occurrence of a character's name throughout my novel by issuing one simple search-and-replace command"

This kind of enthusiasm was usually accompanied by awestruck displays of everything the printer could do. You know – three different kinds of italics, underlined boldfaced superscripted upside-down Greek letters, whole paragraphs printed right-aligned with a ragged left margin to demonstrate the equipment's limitless powers. *Forum* kept costs down by photo-offsetting straight from the original letters. As a result, my general impression was

that word-processed output looked a right mess.

Now isn't that wonderful

Then, when they gave examples of wonderfulness, they always seemed so terrible. Writer X had prepared his letter in three seconds and printed out five copies with the merest twitch of his littlest finger. It was still a bloody awful boring letter, and you wished it had been harder for him to inflict it on the world.

Writer Y was able to produce more and fatter novels (I have a theory that the average book has been getting steadily longer as word processors continue to lessen the effort of redrafting). Unfortunately you couldn't help noticing that her fiction was visibly deteriorating as she became more adept at tarting up a first draft just enough to make it publishable.

And writer Z, hooked on the major, sweeping changes you can make to a story once it's on disk, developed a weird stylistic jerkiness.... Well, think about it. Being able to change every occurrence of "Fred" to "Alfred" sounds great in principle. In practice, a simple "exchange" has a few pitfalls. Unless you take care, other characters called Frederick and Freda will become Alfredick and Alfreda, both of which have an exotic ring but may not quite fit.

Aha, say the pundits, you should do the exchange on not just "Fred"

but "Fred" followed by a space – which is fine except for the myriad cases where "Fred" is followed by a full stop, a comma, a colon, etc. Then there's the scene where the Voice of God says PREPARE TO MEET THY DOOM, FRED in block capitals.... And those are just the mechanical problems.

What's in a name?

Other reasons why this often-quoted example is such a rotten one are more subtle and stylistic. Exchanging every Fred for an Alfred means that the rhythm of countless sentences will alter. Obviously a sonnet about Fred (*Shall I compare thee to a summer's Fred?*) wouldn't scan if the guy were suddenly metamorphosed into Alfred.

Similarly, a prose sentence which leads up to the crashing monosyllable "Fred" may sound wrong when, like a cuckoo in the nest, Alfred substitutes himself.

Waiting for Loco

Oh gosh, the excitement is all too much. Two months ago I nearly mentioned the suspense of waiting for LocoScript 2 and receiving "sorry, not yet, squire" letters from Locomotive Software. Last month I was beginning to chafe but heroically kept quiet, since after all dear old Locomotive weren't going to cash the cheque until ready to deliver.

It's late June as I finish this, and my cheque went through three weeks ago, and I have indeed received... a postcard (whose spelling of "unforeseen" makes me worry about the new LocoSpell dictionary) assuring me that Loco 2 will arrive in mere days.... probably. Pant, pant.

There again, "Alfred" – unfashionable name of a long-gone King of England – has all sorts of different literary associations from the matey, downmarket "Fred", and these may subtly affect the surrounding prose.

The same applies to Writer Z's boasted ability to swap around vast chunks of text via the deeply wonderful Cut & Paste option. Careless minor alterations can damage the "microstructure" of prose, the rhythms which carry it from sentence to sentence. Major block-moves hit at the "macrostructure", the broader flow of paragraphs and pages which is generally a matter of logical rather than rhythmic development, ideas rather than words.

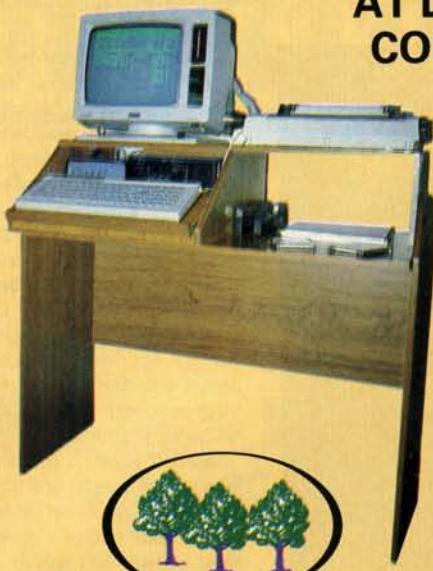
Apologies if that sounds dreadfully pretentious. No apologies at all if you think it's an attack on word processing. Where all these SFWA computer converts were going astray was in stressing the wrong things, and not pointing out how the technology can make you a better writer.

One more time

Yes, you can churn the stuff out quickly and correct it quickly: but you don't have to print it straight away. Working with older equipment, a writer might bog down in exhaustion after two or three drafts; working with the PCW, you can do fifty or a hundred (if you count every little titivation as redrafting).

You still want to change a character's name throughout? Fine – use 'Find' instead of 'Exchange', look at every sentence in its context before changing it, and rewrite with Alfred rather than Fred clearly in mind. Mutter paragraphs under your breath until they sound right. Read and re-read the stuff in case your brilliant phrase "lickspittle running dogs of the repressive Thatcherite junta", on page 112, is upstaged by your having used it twice on page 111....

In short: word processors were hyped as offering the power to make gross, crude changes to what you've written. What the hype artists didn't stress is the boring fact that routine fine-polishing is also easier than ever before. If six drafts later it still doesn't feel right, you're not forced to give up merely because the page is full of marginal notes and scribbled-in corrections. Which is why I succumbed to the joys of word processing; and why, thinking of my erstwhile SFWA comrades' garbled enthusiasm, I remember a couple of lines from a Lewis Carroll pastiche: "Although they wrote it all by rote / They did not write it right."



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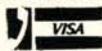
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And if you think it's difficult typing in the program just wait till you try to play the game.

Find the sequence of four numbers. ♦ for a number in the right place
◇ for a number in the wrong place. You have eight goes.

```

1 Type 4 numbers >> 1234 {{ Score: 0
2 Type 4 numbers >> 5578 {{ Score: 0
3 Type 4 numbers >> 9812 {{ Score: 0
4 Type 4 numbers >> 9834 {{ Score: 0
5 Type 4 numbers >> 8712 {{ Score: 0
6 Type 4 numbers >> 8632 {{ Score: 0
7 Type 4 numbers >> 8512 {{ Score: 0
8 Type 4 numbers >> 8785 {{ Score: 0
Out of goes. Sequence was 0722
0x

```

```

0
10 PRINT CHR$(27)+"E"+CHR$(27)+"H": RANDOMIZE PEEK(64504!)
20 PRINT"Find the sequence of four numbers. ♦ for a number in the right place
30 PRINT"◇ for a number in the wrong place. You have eight goes.":PRINT
40 comp$="":goes%=0:choice$="0123456789"
50 FOR a%=1 TO 10:c$(a%)=MID$(choice$,a%,1):NEXT
60 FOR b%=1 TO 4:n%=1+INT(RND#10):comp$=comp$+c$(n%):NEXT
70 PRINT goes%+1"Type 4 numbers >> ";:your$="":FOR c%=1 TO 4
80 k%=0:k$="":WHILE k%=0 OR k$="":k$=INKEY$:k%=INSTR(choice$,k$):WEND
90 a$=c$(k%):PRINT a$;:your$=your$+a$:NEXT
100 score$="":goes%=goes%+1
110 FOR d%=1 TO 4:z$(d%)=MID$(your$,d%,1):q$(d%)=MID$(comp$,d%,1)
120 IF z$(d%)=q$(d%) THEN score$=score$+"♦":z$(d%)="!":q$(d%)="!"
130 NEXT
140 FOR d%=1 TO 4:IF z$(d%)="!" THEN 180
150 FOR e%=1 TO 4
160 IF z$(d%)=q$(e%) THEN score$=score$+"♦":z$(d%)="!":q$(e%)="!":e%=4
170 NEXT
180 NEXT
190 IF score$="" THEN score$="-----"
200 PRINT" << Score: "score$
210 IF goes%>8 AND score$<>"♦♦♦" THEN PRINT "Out of goes. Sequence was "comp$:GOTO 230
220 IF score$="♦♦♦" THEN PRINT:PRINT"Well done! You got it in"goes%"goes."ELSE 70
230 END

```

FILE CODER

by Chris Mitchell

Calling all spies and paranoids. Due to the success of our recent listing to provide 'one time pads' for writing your own coded letters we have been inundated with programs to encrypt your files into everything from morse code to hieroglyphics. This one from Chris Mitchell can't promise any of that but it will scramble your vital communiques ruthlessly.

When you run the program it asks you for the name of the file you want coded or decoded, and then you have to give a name for the output file (the file that has been coded or decoded). You then are asked to choose a password – a number between 1 and 255.

If you were to try to read or print out that encoded file directly, it produces a load of scrambled nonsense,

virtually indistinguishable from the average 8000 Plus article. That is fun but probably more interesting is to get it back to a state where it can be read again. You just repeat the process this time quoting your encoded file name as the input file and repeating the correct number. The output file should then come out perfect.

It certainly does work a great deal more effectively than setting a password on a file in CP/M (which can be circumvented very easily – for instance by using LocoScript to read the files which ignores passwords) but of course we don't take any responsibility if you can't decode your valuable shopping list and you might be wise to take unencrypted back up copies of any file that you code in case you forget the password!



"YOU'RE NOT GOING TO BELIEVE THIS - IT SAYS 'BUY 8000 PLUS MONTHLY'!"

```

10 INPUT "name of file to be coded/decoded: ", f1$      1236
20 INPUT "name of output file: ", f2$                   0CF3
30 OPEN "r", 1, f1$, 1                                 056B
40 OPEN "r", 2, f2$, 1                                 0570
50 FIELD 1, 1 AS incode$                            0789
60 FIELD 2, 1 AS outcode$                           0883
70 INPUT "password: ", pass                         0A4E
80 IF pass>255 THEN 70                               06B3
90 GET 1                                              0282
100 WHILE NOT EOF(1)                                0702
110     a$=incode$: byte=ASC(a$): byte=byte XOR pass  1081
120     LSET outcode$=CHR$(byte): PUT 2               0039
130     GET 1                                         01C5
140 WEND                                              0319
150 CLOSE 1                                         0330
160 CLOSE 2                                         0341
170 END                                              0207

```

BASIC PIP

by S. Huggins

For all those people wanting to move files around from disc to disc without leaving BASIC here is a simple but effective program to do just that. This is a simple copying program like PIP which allows you to copy a file in the same drive or to copy a file to a different drive – all in only nine lines of BASIC.

It is actually a good deal easier than PIP to use though. Run the program and at the prompt enter the name of the file to be moved or copied. If it is in a drive other than the one you are currently logged onto then put in the drive letter first followed by a colon (eg M:WOMBAT.DOS).

Next think up a new name for when you are asked – if

you are moving the file to a different disc, you can reuse the same file name but remember to put the new drive and a colon in front. Should something go wrong it will tell you that there has been an error and will even tell you an error number.

If you want to find out what any particular error is you will have to lay your hands on the Amstrad BASIC manual (long term owners who got theirs free now feel smug) and turn to page 353 where they are all listed. When you press a key the program will loop back to the beginning because even if you don't know what the error message means to is usually worthwhile having another try.

```

10 ON ERROR GOTO 80: INPUT "Enter file to be copied: ", A$      15E5
20 IF FIND$(A$)="" THEN PRINT CHR$(7); "Filename not found": GOTO 10  1688
30 INPUT "Enter new name for file: ", B$                         0E92
40 PRINT "Copying..."                                             0820
50 OPEN "R", #1, A$, 128: OPEN "R", #2, B$, 128: FIELD 1, 128 AS C$: FIELD 2, 128 AS D$: Z=1  151E
60 WHILE NOT EOF(1) OR Z<=LOF(1): GET 1: LSET D$=C$: PUT 2: Z=Z+1: WEND: CLOSE 1A57
70 PRINT "copied...": END                                         0846
80 PRINT: PRINT "Error"; ERR; "found.... Try again"                121A
90 WHILE INKEY$="" : WEND: CLOSE: RESUME 10                         1078

```

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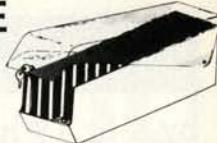
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PRINT STYLE SETTER

by Richard Hamblen

Hands up everyone who knows the escape code for setting the printer to print Elite text (12 characters per inch). OK. Who knows how to set up the printer in continuous paper in BASIC? Anyone who does know these obscure codes by heart can ignore this program but anyone who doesn't may well think it worth while investing the time typing in this listing.

Escape codes are those weird messages like CHR\$(27)+"R"+CHR\$(0) that you send to the printer to tell it to do something unusual like change from the UK character set to the US character in the example given. If you don't know what this does it is for those people who get annoyed at the way a # on the screen in BASIC comes out as a £ when you print it out.

The next time you want to change the printer settings you just run this program and choose the settings you require. Choice number 8 "Set as default" makes the current set of printer commands the 'default' - this

means that when you do a printer reset, after a paper jam or something, the machine will revert to these new settings rather than the usual 10 pitch draft mode. When you leave the program, by pressing option 9, the printer stays set for the new settings until you run the program again or switch off.

If you don't like the choice of settings provided why not adjust to your own needs by changing one or more of the escape codes in lines 10130 to 10260. You will find these starting at page 130 of the CP/M manual. If it says ESC p 1, for instance, ESC is CHR\$(27), the letter is written in quotes, "p", and the number would be CHR\$(1). So this example (to set proportional text) would be LPRINT CHR\$(27)+"p"+CHR\$(1). You would also need to change the reference in the directory in lines 10010 to 10090. The program is deliberately numbered starting at 10000 just in case you want to tag it on to the end of one of your own programs.

10000	PRINT CHR\$(27)+"E"+CHR\$(27)+"H"	0A61
10010	PRINT TAB(15)"US CHARACTER SET (for # on printout).....	1" 1949
10020	PRINT TAB(15)"UK CHARACTER SET (for £ on printout).....	2" 1A20
10030	PRINT TAB(15)"SET UP ELITE (12cpi).....	3" 1594
10040	PRINT TAB(15)"SET UP PICA (Return to 10 cpi).....	4" 1739
10050	PRINT TAB(15)"SET UP CONTINUOUS PAPER MODE.....	5" 191E
10060	PRINT TAB(15)"SET UP SINGLE SHEET PAPER MODE.....	6" 1853
10070	PRINT TAB(15)"SET UP PAPER LENGTH.....	7" 1638
10080	PRINT TAB(15)"SET AS DEFAULT.....	8" 1390
10090	PRINT TAB(15)"END PROGRAM.....	9" 1385
10100	INPUT " Type in your option please ",A	1000
10110	ON A GOTO 10130,10140,10150,10160,10170,10180,10190,10260,10120	0F37
10120	END	0206
10130	LPRINT CHR\$(27)+"R"+CHR\$(0):GOTO 10000	0093
10140	LPRINT CHR\$(27)+"R"+CHR\$(3):GOTO 10000	0090
10150	LPRINT CHR\$(27)+"M":GOTO 10000	0AF2
10160	LPRINT CHR\$(27)+"P":GOTO 10000	0AF9
10170	LPRINT CHR\$(27)+"C":GOTO 10000	0AF0
10180	LPRINT CHR\$(27)+"\$":GOTO 10000	0AD5
10190	INPUT " PAPER LENGTH IN INCHES OR LINES (I/L) ";L\$:PRINT	15E2
10200	IF UPPER\$(L\$)="I" THEN 10220	092B
10210	IF UPPER\$(L\$)="L" THEN 10240 ELSE 10190	0005
10220	INPUT " TYPE IN PAPER LENGTH IN INCHES ";I	1169
10230	LPRINT CHR\$(27)+"C"+CHR\$(0)+CHR\$(I):GOTO 10000	0F78
10240	INPUT " TYPE IN PAPER LENGTH IN LINES ";L	111A
10250	LPRINT CHR\$(27)+"C"+CHR\$(L):GOTO 10000	00C7
10260	LPRINT CHR\$(27)+"d":GOTO 10000	0AF0

Gremlins Corner

In last month's **BASIC Checker** listing we casually mentioned that the program wouldn't bother to check for the difference between upper and lower case characters because in BASIC that seldom makes any difference. Within days we were sent a copy of the same month's **Raffle** listing which didn't work, complete with a Checksum listing of it with all the numbers perfect. It still didn't work right.

Well, in true Sod's law style our reader had managed to find one of the very few times when there is a difference between upper and lower case. In line 60 where it says UPPER\$(z\$)="P" what it means is that any letter typed in will automatically be turned into upper case, so the result can never equal lower-case p.

So, to rephrase, there is *very rarely* any difference between upper and lower case in BASIC.

DISC LABELLER

by B. James

The problem with printing out a directory of all the files on a disc for ready reference is that you always lose the paper. So here is an answer to this problem once and for all – the ultimate disc labeller.

The advantage of this one is that it prints out all the file names in a form that can be cut out and stuck inside your clear plastic disc holder. Run the program and then put in the disc you want labelled. When asked for the "title" you give it a name that will be printed down the spine so that you can find the right disc in the twinkling of an eye. It will then ask which drive the disc is in.

If you give this program a LocoScript disc to chew over you will see that the different groups are marked too. The first file of each group has the group number in reverse video to its left, and the rest of the files in the group follow it, left to right across the label.

8	EXGUIDE	.811	CPW	.811	BDRIVES	.811	CONTACTS.APR
0	LOCOMAIL	.811	PDS	.811	GUIDE	.811	BAK
0	DISCS	.811	TIMEINT.PI	.811	CONTACTS.MAR	.811	HEX
0	SPREADS	.807	LISTINGS	.807	CAV	.807	ERGONS
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U	NEWS	.808	NEWSDESK	.808	LISTINGS	.808	COMP
S	GUIDE	.808	MOUSE	.808	MICPLUS	.808	SCRIB
R	ROMBO	.809	MAY	.809	MEAC	.809	LISTINGS
A	HEP	.809	UPGRADE	.809	CODES	.809	DRAUGHT
T	BOOKS	.809	MANAGER	.809	COMP	.809	BUCS
I	HOMEVIEW	.809	NEWS	.809	LISTINGS	.810	TEMPL
E	NEWS	.810	GRAPHICS.GRP	.810	JULY	.810	FIRSTCAL
B	IRL	.810	TEMPDISC	.810	FNF	.810	PLAN
C	COMPET	.810	HPA	.810	ART	.810	CRA
					BOX	.810	

S	SI14CPM3	.EMS	BASIC	.COM	PIP	.COM	DIR	.COM
t	LOGO	.COM	SUBMIT	.COM	FNKEYS	.COM	NEWDRV	.BAS
a	KEYS	.DRL	SETDEF	.COM	DISKIT	.COM	PAPER	.COM
r	SETKEYS	.COM	CLS	.	SETUP	.BAS	PIPS	.BAS
i	PROFILE	.SUB						
O								
I								
D								
A								
S								

```

10 INPUT "TITLE "; T$: T$=LEFT$(T$+SPACE$(16), 16)
20 INPUT "DRIVE "; D$
30 E$=CHR$(27): S$=SPACE$(12): K=0: U=0
40 PRINT E$+"E"; E$+"H"; CHR$(134); STRING$(3, 138);
50 PRINT CHR$(142); STRING$(55, 138); CHR$(140)
60 FOR I=1 TO 16
70 PRINT CHR$(133); " "; MID$(T$, I, 1); " "; CHR$(133);
80 FOR J=1 TO 4
90 IF U<16 THEN K=K+1: A$=STRIPS(FIND$(D$+": *.*", K))
100 IF A$="" THEN: K=0: U=U+1: IF U<16 THEN OPTION FILES STR$(U): GOTO 90 ELSE A$=S$;
110 IF K=1 THEN PRINT E$+"p"; HEX$(U); E$+"q"; A$; ELSE PRINT " "; A$;
120 IF J=4 THEN PRINT CHR$(133) ELSE PRINT " ";
130 NEXT J
140 NEXT I
150 PRINT CHR$(131); STRING$(3, 138); CHR$(139); STRING$(55, 138); CHR$(137)
160 PRINT E$+"f"; E$+"o"
170 WHILE INKEY$="" : WEND: PRINT E$+"e"; E$+"1"
180 OPTION FILES "0"

```

How to type a listing in

The first thing to do is to load Mallard BASIC. Turn on your PCW and put a copy of the CP/M master disc into drive A.

When the A> prompt appears, type BASIC and press [RETURN]. After a few seconds a message about Mallard BASIC will appear on the screen, ending with the prompt 'Ok'.

Type in each line carefully starting with the line number and ending with [RETURN] although the four figure code on the right of the line should not be typed in. This is for checking for mistakes with our Checksum program - see Listings Plus for July. Be careful not to mix up capital I and lower case l, capital O and the digit 0. colons and semicolons.

You should always save any listing before running it. To do this, find a work disc with space on it and type SAVE "PROGRAM" [RETURN]. Of course you can choose any name up to eight characters in place of "PROGRAM".

When you've finished, type LIST [RETURN] and the whole

program will appear on the screen. Check it, and if any lines are wrong correct them with the 'line editor'. For example, if there is a mistake in line 100, type EDIT 100 [RETURN]. Use the arrow keys and the delete key to correct the line, and press [RETURN] when you've finished. You can delete a whole line by typing its number and pressing [RETURN].

To run the program, simply type RUN [RETURN] ... and wait for it to go wrong.

It's more than likely that no matter how carefully you typed in the listing it won't work first time. You may get an error message such as 'Syntax error in 100'. List the program out (LIST lists it on the printer instead of the screen) and check it against the original in the magazine.

The line number given in any error message isn't necessarily where the error is - it is simply the point at which the PCW gets stuck. You may have to look elsewhere for the error.

When you find the mistake, either retype the complete line or

use the line editor as described earlier to correct it. Rerun the program, and go on correcting it until it works. Once the program is running correctly, save it again. To leave BASIC and return to CP/M, type SYSTEM [RETURN].

If you want to run the program another day, start BASIC up and type LOAD "PROGRAM" (or whatever name you used in place of 'PROGRAM'). Then just type RUN to run it.

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To submit a listing you must

supply the following:

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eg o1=Overheads, o1=Rent, o2=Heat/Lighting, o2=Stationery etc.
or m0=Motoring, m1=Petrol, m2=Road Tax, m3=Maintenance etc.
- Descriptive text eg, "Tax Rebate", "Refrigerator", etc.
- Optional single-character mark as an extra identifier, eg, b=business, p=private, etc.
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Users of word-processors like WordStar and NewWord will be already be familiar with the amount of disc space required just to run the program – it all takes an enormous 60k or more from your A-drive. VDO, on the other hand, manages to pack most of the features of WordStar and its clones into just the one file, all run from your PCW's M drive, and no disc space needed. And all in just 7k!

If it is only about one-tenth the size you might be forgiven for reaching the logical conclusion that it only has one-tenth the features – in fact it has most of those you'd find in a full word-processor. But there are bound to be a few disadvantages to such a compact program. Most importantly, you cannot edit a very large file, so calling it a word-processor is stretching a point. If you intend to write a sequel to War and Peace VDO is just not for you. The largest size of file you can edit is whatever is left over in the computer's program memory after loading in VDO. With CP/M+ you have 61k of memory for any programs. VDO takes up 7k of that, so you have about 54k left for a document. Still, how many text files of yours approach 10,000 words in length? VDO gives you a permanent reminder in the top right corner of the space available as you type away, so if you do tend to waffle you will soon know when it's time to wind things up.

Another advantage of having all the program in the computer memory is that everything runs much faster. Help menus pop up straight away and the speed of running up the program first time from cold is very impressive. Also there is no need to always have the 'program disc' always in the A drive. This allows you to use the A: drive – great for PCW8256 users who don't have the luxury of two drives and a large RAM disc.

VDO uses nearly all of the keys and command strings used by WordStar so if you are used to them it makes life that bit easier. Amstrad were kind enough to supply a SETKEYS file on the CP/M startup disc (side 2 of the PCW master disc set) called KEYS.WP that sets up the PCW keyboard with the Wordstar key commands. Once you have typed SETKEYS KEYS.WP, you will find that instead of having to press [ALT]Q then F for 'find', for example, you can just press the PCW's [FIND] key.

So, what are its other disadvantages? To call it a word-processing program is to flatter VDO really, and basically it is just a very neat file editor, a cheap advance on RPED. It would be good for writing small SUBMIT files, typing in a BASIC listing from 8000 Plus and so on. All easy stuff compared to the delights of RPED. Once completed with full editing ease you can then load the ASCII text produced with VDO into Mallard BASIC with the usual LOAD command and away you go!

VDO25B (to give its full title) is not the only editor program for CP/M+. There are others, VDE and EXPRESS for example, which are just as good and worth looking into.

WordStar quality

For those who have never even seen WordStar or its equivalents, here is what VDO can do. ↑ X means hold down [ALT] and press X (or whatever key) at the same time; ↑ KX means do an [ALT]K and then press X afterwards.

The standard cursor movement keys are supported as shown here:

↑ E – Up one line ↑ D – Char right
↑ S – Char. left ↑ X – Down one line

↑ A – Word left ↑ F – Word right
↑ C – Down one page ↑ R – Up a page

DWARF WORDSTAR

Frank Peters tells you about the public domain mini-wordprocessor VDO25B

Here are the Block movements and controls accessed by use of the

↑ K key:

↑ KS – Save document to disc and continue to edit
↑ KX – Exit back to CP/M, saving document first – ie. a 'safe exit'
↑ KQ – Quit edit altogether without saving

↑ KB – Mark the start of a 'block' of text
↑ KK – Mark the end of the 'block' of text
↑ KV – Move the marked block of text to cursor position
↑ KC – Copy the block to cursor position
↑ KY – Erase block from document altogether
↑ KW – Save block to disc

↑ KL – Change logged drive
↑ KR – Read a document into memory for edit
↑ KF – List directory of disc in logged drive
↑ KZ – Erase a file from the disc
↑ KP – Print file

There is also a variety of Help menus to for you to look at while learning or when you forget that vital command – all too frequent an occurrence with WordStar's weird choice of abbreviations:

↑ JH – Allows one set the level of help offered from Novice up to Expert
↑ JQ – Displays the Quick menu
↑ JK – Displays the Block menu
↑ JJ – Displays the editing functions

EXIT

Where to go

If you want to get hold of Public Domain software, there are several sources which may interest you.

The CP/M user group publishes a quarterly newsletter and runs a vast software library, though not all of it relevant to PCW owners. The software is free to members but there is a joining fee and a copying fee per disc. Send a large SAE to *The Secretary, CP/M User Group, 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ.*

Another setup who can supply a

large range of public domain programs, again with administration charges, is *PD Software, Winscombe House, Beacon Road, Crowborough, East Sussex TN6 1UL (phone 08926 63298).*

If you have a modem, you can download software from my bulletin board (among others). This is active 24 hours a day on 0462 700644.

TIP-OFFS

More tip-offs than the Yard on a Saturday night!

Once again our informants have sent us a dossier of priceless inside info. We need your help in our bid to free the PCW world of criminal wastes of time.

Prospective grases will be treated in the strictest confidence; the hottest pieces sent to *TipOffs, 8000 Plus, 4 Queen St, Bath BA1 1EJ* will be rewarded with round-the-clock protection from the wrath of software mafia bosses and a £30 backhander in used fivers. This month's cash reward plus a new life in Brazil goes to arch-yuppie David Mason of Witney in Oxfordshire for his essential advice for all computer age Filofax users.

Tel all

A list of telephone numbers which can be cut to fit into any slim diary or Filofax can be made in the following way. Create a document with these layouts:

Layout 1:	Layout 2:
Pitch	Pitch PS
Line spacing ½	Line spacing ½
Line pitch 6	Line pitch 6
Left margin 10	Left margin 48
Tabs 12,31,45	Tabs 50,69,83
Right margin 43	Right margin 81

Pagination: remove all headers and footers and enter the following in the pages menu:

Page length 38
Header zone 0

header position 1

Footer zone 0

Footer position 38

Now set up your headings with
[Layout1] [Bold][RETURN]

Name [TAB] Telephone

[RETURN][RETURN]

[Bold] [Pitch17] [ENTER]

[SuperR] [RETURN][RETURN]

. Then enter the names, [TAB], and the numbers each on a new line – the page will take up to 70. Start each section with a capital letter heading set up by a phrase such as

([SuperR])([Bold])([Pitch17D])A([Pitch17])([Bold])([SuperR])

followed by two RETURNS.

At the end of the page change to Layout 2 by typing [f6] [ENTER] [Layout2], set up the Name and Address heading as above, and continue entering names. Names can be up to 28 characters long and numbers up to 18 digits. You can change these lengths to your taste by altering the tab settings.

As you add more names later on some might spill from page 1 to page 2. You can paste them into the right place quite easily. Print both pages on the same sheet of paper being careful to align the paper in the same position both times.

*David Mason
Witney, Oxfordshire*

Name

Telephone

A

Al Khabol, Mustaf

01-644-7823

B

Baton, Chris P
Ball, May
Banks, Robin
Beach, Sandy
Black, Matt
Blood, Drew

23292
021-568320
01-642-8047
01-225-5714
884409
010-53-9-64473

C

Carr, Ira
Carr, Rusty
Cash, Nick
Case, Ed
Condon, Buster
Crowde, Terence
Cutler, Pete

01-275-9352
051-627298
643529
0101-404-565656
0482-23329
01-556-6206
01-290-2321

D

Day, Wayne E
deBlancs, Phil
Down, Ben
Down, Ben
Down, Eileen
Down, Neil
Driver, Laurie
Dunn, Saul

0987-682242
01-273-6005
01-225-6048
01-456-9022
03727-24006
653309
01-627-5495
922405

Name

Telephone

K

Keyes, Del

01-642-6773

L

Laffyn, Del

0792-647900

M

MacCoatup, Angus
Monev, Owen
Mywards, Mark

095-722-8663
0792-647900
362811

N

O

Over, Bent

010-47-2-533737

P, Q

Potts, Stu

884452

R

S

Showers, April
Stazley-Turner, Ben
Storey, Frank
Sun, Hoi-yu

647813
0225-446034
0532-275608
010-652-5-736273

Unforgettable names

Anyone trying Kai Arste's blissfully minimalist suggestion in the May issue of removing unwanted group names by erasing the zero length file "groupname.GRP" might have found that although the name has gone forever, if you try to rename a group with its old name it tells you "New name already exists."

What has happened is that the group name has gone into limbo. You can recover it by showing the limbo files (the [f8] Options key followed by the to set Limbo on) of the group and, with the cursor over the old group name, selecting 'Recover from limbo' from the Rename menu [f5]. Faster than a speeding bullet, the group instantly returns to its true identity.

Going for a scroll

One of the most frustrating things about using the [STOP] key to stop a BASIC listing scrolling is that it is not possible to restart from that point. CONT only works if the program is being run, not listed.

However the listing can be stopped and re-started by pressing [ALT]+S – very useful if long listings need examination.

[ALT]+A is also useful. It recalls the last line you typed in. Very handy for those occasions when you type in a lengthy command line press [RETURN] and find you have the wrong disc in or have printed one or two letters wrong. Instead of laboriously typing everything in again you type [ALT]+A and the last line appears again as if by magic. You can then correct it if necessary with the cursor keys and delete keys before pressing [RETURN]. [ALT]+W does the same thing in CP/M.

John Sorsby, Farnham, Surrey and others

Towards edible hardware

If you put a box of A4 listing paper behind the printer, the paper feeds in nicely but the output does not stack well on top of the box, unless a) the back support is at a lower angle, ie reversed

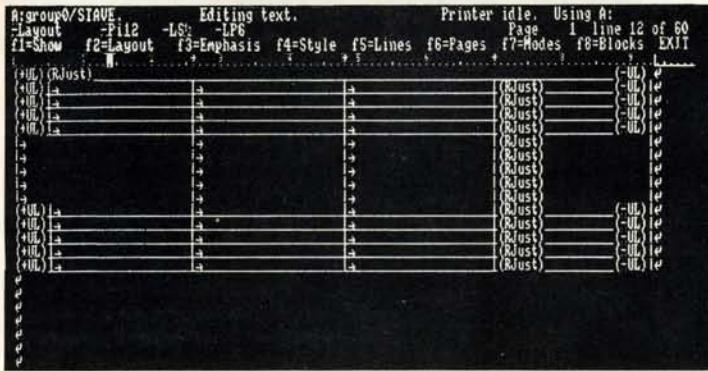
b) a tube of Rowntree's Fruit Pastilles is placed in the trough between the platen and the back support.

A full 18p tube seems to have just the right mass to make the fanfolding work properly. The problem is watching the pastilles go round without taking any out to eat.

*GEB Russell
Abingdon*

Tipoffs editor adds: we advise readers not to attempt to eat other items of hardware except under strict medical supervision.

At last... ManuScript 2



You can print your own music manuscript paper with bar lines by setting up a file in LocoScript by using:

Pitch	12
Line	6
Line Spacing	1/2
LH Margin at	0
RH Margin at	93
Tabs at	26,48,70
Page length	70
Body	60
Header zone	6
Position	7
Footer zone	4
Position	66

Then type

Line 1: (UL)(RJust)(UL)[RETURN]

Lines 2-5: (UL) then | at beginning, tabs, and end (UL)

UL)[RETURN]

(The | is produced by [EXTRA]+full stop)

Lines 6-10: | at beginning, tabs, and end [RETURN]

Lines 11-15: (UL) then | at

beginning, tabs, and end (UL)[RETURN]

Lines 16-22: [RETURN]

This can be done much quicker by copying lines 2 and 6 as phrases.

This gives you one musical stave with four bars per line, the first being slightly wider to take the clefs, key signature and time signature. You can adjust the spacing of bar lines or increase the number of bars per line by altering the Tab settings in the header.

You then copy lines 1-22 as a block and paste repeatedly to make up to six staves to a page.

Les Gutteridge
Wolverhampton



Down by numbers

It is usual to label lines in BASIC programs in multiples of ten to leave space for the inevitable insertions later on. However, using the RENUM function, you can add lines anywhere you like and re-number automatically.

Suppose you want to insert 20 lines between lines 100 and 110. With the usual increment of 10 for each line, line 110 should now be 310. Simply type RENUM 310,110

[RETURN]. When the desired lines are in and working then type RENUM [RETURN] and all the lines are listed in conventional order. And you don't have to worry about the effect on GOTOS, GOSUBs and the like - RENUM remembers them and adjusts them accordingly.

Gerald Lewis
Penryn, Cornwall

Living in a box

You can buy very smart and inexpensive plastic boxes, called "Card Index Boxes", which hold nine CF-2 discs in their cases, from W H Smith's. They come in several colours with conveniently deep hinged lids and cost just £1.99.

Bernard Paterson
Leigh-on-Sea, Essex

document for [TAB] the document relays itself and to look like :

Membership Name	Town or City	Fees paid
0101	Smith, J	Leeds £10.00
0102	Brown, N	Bradford
0103	Jones, E	Cardiff £10.00

Using the Find/Exchange feature in this way is slow, but it is automatic - allowing time for the usual cup of coffee or two.

J M Wyles
Heckmondwike, West Yorkshire

Protext's split personality

One of the assets of Protext, apart from its ease of use, is the fact that it can hold and work on two different documents in memory at once. This could be valuable if you want to load data, swap over to the other document to write your article, and pull out information as required.

Open a file on the required subject and then type in the information as your research progresses. If, for example, you are writing an article about cats, your data document can be created first. Into this you write the data in clearly defined blocks leaving blank lines between items, and under sub-headings such as Persians, Tabbies etc.

A reasonable size data file can be built up by this method and if an index on sub-headings is included at the beginning then by using the fast FIND facility the items required can be quickly located.

The command to swap to the other working document is [ALT]+Y - if you're unused to Protext and suddenly find your entire text has disappeared for no reason, you've probably hit these keys by mistake. Your precious 50k document has not been erased! Just press [ALT]+Y again (or SW for SWAP in command mode for the same effect) and the original document will reload. To copy a block across from one document to another, first mark the block in the normal way using SHIFT+ at the beginning and end, swap to the other document, press [ALT]+O and the required block will appear at the cursor position.

Another application for the two-file editing facility is just to use one of the files as jotting space. When an idea occurs to you, swap to the second file, type it in and swap back. At the end of the session, print out the results.

P Stephenson, Elvington, York and others

Special k

Users of Protext can get an extra 5k on their data discs by formatting them with DFORMD, Protext's own formatting function used for copying the spell checker dictionary around. In fact this formats discs in the same way the Amstrad CPC6128 computer uses them. Instead of the usual 173k your disc will now take up to 178k! You can't use them as start of day discs though, and DISCKIT won't copy them either - you will have to use PIP to back up the files on such discs.

Dashing titles

Have you often wished you could label a document in two words rather than running them together in the file name. For instance, if you are writing a treatise on decomposing automobiles, you might feel the name CARROT.DOC is misleading. The PCW won't let you type CAR/ROT or CAR-ROT but it will allow CAR_ROT. A simple underline dash will separate the words and they'll be understandable at a glance.

*Dr Dale Beckett
Purley, Surrey*

Economy drive

How many PCW8256 owners realise that they have, in many respects, a three drive machine? The actual drive at the top right corner can be either A or B. There are several uses this can be put to. For example using A>DIR[FULL] to get a full directory of any disc without DIR.COM on it will get "DIR COM required".

You could go to the lengths of using PIP to move DIR.COM to the M drive and then put the disc back in and enter M:DIR[FULL] but it is much easier to put the CP/M disc in and enter DIR[FULL] B:. You will then get the prompt "Please put the disc for B: into the drive and then press any key."

Put the disc you need the full directory for into the drive, press any key and you will get the required result listed as drive B. The prompt in the bottom right will state "Drive is B:". The next time drive A is needed you will be prompted to put the disc for A into the drive and press any key.

This technique can be used for any program that needs all the discs to be available as soon as [RETURN] is pressed (eg PIP.COM, DUMP.COM, SETKEYS.COM) when any files that are needed from another disc are prefixed with B: eg B:DATA.ASM. An extra advantage if using it with large programs is that it leaves the M drive available for data files rather than being full

of program files. With an 8256 without an expanded memory this method can in some cases allow programs to be run that would only be possible on the 8512 without this technique.

It should be pointed out that the drive B in these examples is still of the normal drive A format and not the double sided drive of the 8512.

*Richard Yorke
Newcastle, Staffordshire*

Clearing the screen

If you are fed up with screenfuls of rubbish littering your monitor screen when you're running CP/M why not try a simple example of this PIP file creation. You can include a file on your CP/M disc which will clear the screen whenever you type CLS.

First, use PIP to create a file called CLEAR containing the control codes 'escape', E, 'escape' and H. Do this by typing

```
PIP CLEAR=CON:  
[EXIT]E[EXIT]H  
[ALT]Z
```

[EXIT]E here means press [EXIT], then release it and press E (it must be a capital E). The [ALT]Z used to end the file means hold down [ALT] and press Z at the same time.

You could now clear the screen any time by entering TYPE CLEAR - the PCW will attempt to print out to the screen the above two escape codes, which merely cause the cursor to return to the top left corner and the screen to be wiped.

However if you have SUBMIT.COM and SETDEF.COM on your disc and you've read this month's CP/M article and given the command

```
SETDEF  
[ORDER=(SUB,COM)]  
then you can make up an additional file CLS.SUB containing the single command TYPE CLEAR and wipe your monitor clean any time (well, the screen, anyway) just by entering CLS [RETURN].
```

Why stop there?

When writing a second LocoScript letter to the same correspondent, a convenient way to save looking up and typing out their address again is to start with an empty file, and use the [F7] Insert Text option to start inserting the first letter with your finger poised over the [STOP] key.

Just after the "Dear Mr Smith" is reached you press the [STOP] key twice and the program stops inserting text. All you have to do now is change the date.

*John Levitt
Leek, Staffordshire*

Full LocoScript discs in CP/M

When you've been using a CP/M program (such as a spellchecker) on LocoScript files, and you want to transfer the altered document back to the LocoScript disc, it often happens that you get a 'full disc' error message when there appears to be plenty of room left on the disc.

The reason is that your disc is full up with LocoScript 'Limbo' files. Whereas LocoScript will happily erase these files to make room for new ones, CP/M thinks that they are valid files and not to be erased.

These Limbo files are stored in CP/M's 'user groups' 8 to 15. To erase them, you either have to have a program which recognises these groups and can erase files, like NewSweep, or do as follows:

Change to group 8 with the command USER 8, do a D I R to check whether there are any files there. If so, type ERA *.* and confirm it (make *really* sure that the prompt has changed from 'A>' to '8A>'. If you will be erasing your non-Limbo group 0 files!). Change to group 9 with USER 9, and repeat until you have done group 15. Now get back to group 0 (USER 0) and you will find that you're not all clogged up with unnecessary files in Limbo.

Hilary Hayes, South Harrow

From the NewWord: print codes

If you are running NewWord on the PCW you may have experienced a few difficulties with the print control codes.

You can make things easier for yourself by choosing the correct printer driver from the mass that are offered to you. The PCW printer is best served by NewWord's Epson LX80 driver (not the FX, which doesn't have a

High Quality font) and then you find that the obtaining NLQ printout is a simple matter of entering the dot command .BP ON at the top of the letter template. Incidentally when using this command you must also enter the dot command .UJ OFF to eliminate the awful printer judder which will otherwise occur.

The NewWord manual claims that ↑PY will do italics, but it doesn't seem to work. Here is a list of printer effects obtainable by the control codes. To use these, put the dot commands once only at the start of the text file, which then sets NewWord up. Then the text which you want to be in italics or enlarged should be enclosed by the 'on' and 'off' codes indicated. The effects work for one line only; to do a complete passage enlarged requires the 'on' code at the start of each line.

NewWord v2.17 for the PCW comes already installed for an Epson FX80 printer, which doesn't have a NLQ mode. To change, install NWINSTAL and at the prompt select the Epson LX80 as your default printer.

When entering the dot commands always ensure that the dot is at the extreme left margin. It doesn't matter how many dot commands you enter, they will have no effect on your header position. You will still be at Line 1 Column 1 after entering them all.

Action	Dot Command Code
Enlarged print on	.XQ IB 0E
Enlarged print off	.XW 14
Italics on	.XE IB 34
Italics off	.XR IB 35
Proportional on	.XI IB 70 31
Proportional off	.XJ IB 70 30

So to do a phrase in italics, the file would read

```
.XE IB 34  
.XR IB 35  
Normal text then ↑ Eitalic  
text ↑ R  
Shaun Mahon  
Sultanate of Oman
```

Ye olde and ye newe**Ye Olde Tea Shoppe****Traditional Olde Englishe Fayre**

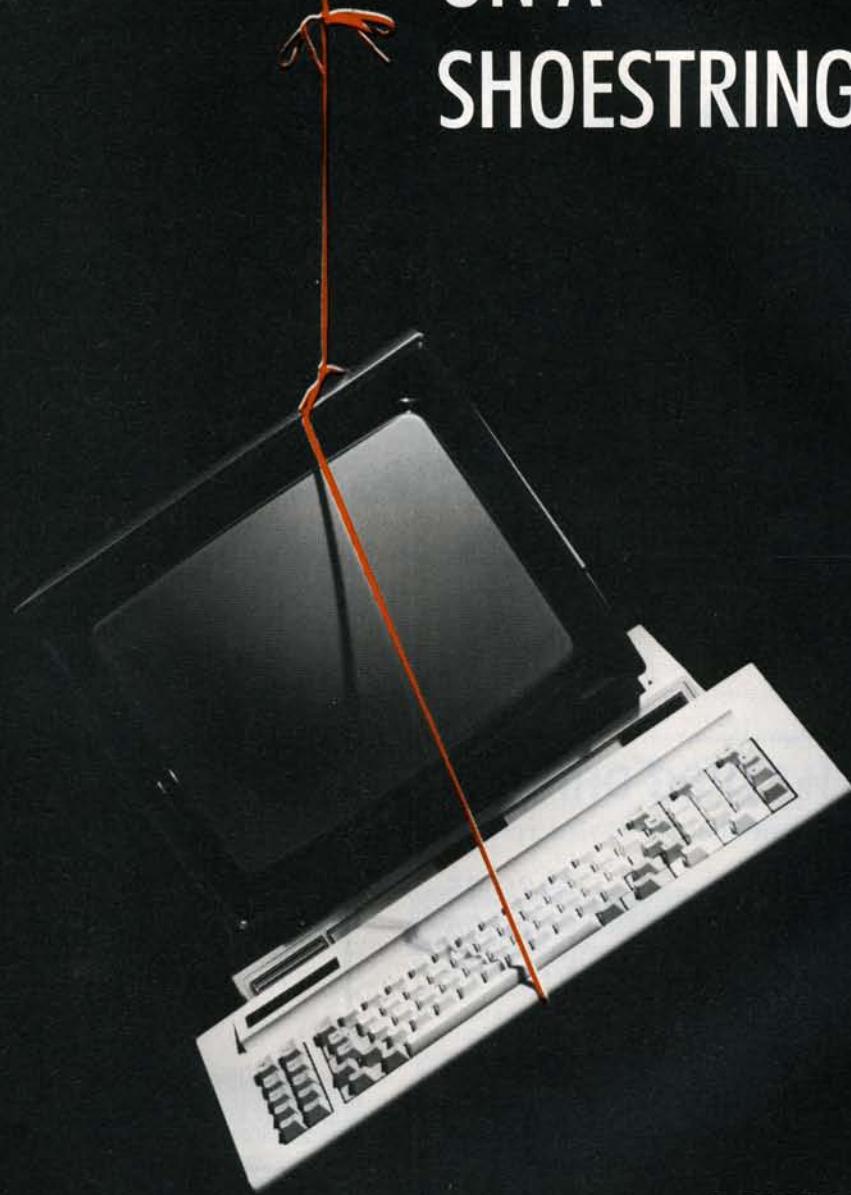
- fully established since 1986 -

In the "olde worlde" font of Supertype, text in 15 and 17 pitch doesn't come out in the new font as you might expect, but produces the normal condensed type in both upper and lower cases. So there is

a quick way of overcoming the fact that you normally have to change to another disc to get a different typeface.

*Jessica Barnes
Stockport*

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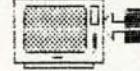
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THE GOOD SOFTWARE

FILE

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Word-processing software, Games and Accounts/Payroll programs to face the ultimate test. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

Any software not listed here either has not been reviewed by us yet, or has been left out to make space for better programs. Games entries have ratings out of five, the others have a brief summary and a list of plus and minus points. Particularly noteworthy programs have an elliptical flash on them. Have fun window shopping!

ACCOUNTS • PAYROLL

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£24.95 • Connect Systems Ltd • 01-743 9792

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PLUSES • MINUSES

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- ⊕ Standing orders can be defined for each month
- ⊕ Detailed and summary statements can be printed out
- ⊕ VAT reports can be separated out
- ⊕ Can present results as bar charts
- ⊖ The 24-page manual does not give enough examples
- ⊖ The statement format is not very flexible
- ⊖ Transfers between accounts are not cross-referenced

Sagesoft Accounts

£99.00 • Sagesoft • 091-284 7077

An integrated accounts package consisting of purchase, sales and nominal ledgers. For another £50 you can buy Accounts Plus which also has invoicing and stock control. The package is aimed at small companies with the emphasis on ease of setting up. But there are a number of limitations — in particular the package cannot cope too easily with rapidly increasing numbers of customers and suppliers.

PLUSES • MINUSES

- ⊕ Clean, tidy and logical screen layouts and menus
- ⊕ Easy to set up and use with excellent documentation
- ⊕ Good audit trails and VAT reports
- ⊕ Can produce formatted trial balances
- ⊖ Restrictive account numbering system
- ⊖ Small batch sizes
- ⊖ Only single Nominal ledger and VAT analysis per item
- ⊖ Does not cater for settlement discounts
- ⊖ Won't print remittance advice slips

Compact Accounts

£199.99 • Compact Software Ltd • 0306 887373

Another very large integrated package supplied on several discs and consisting of sales, purchase and nominal ledger together with invoicing. The package is available

VERSATILE!

on much larger micros, and since the format in which data is produced is the same as on PCWs, the system is particularly suitable for users planning to upgrade their hardware at a later date. The programs' anti-piracy system means you have to use the original discs in the A drive. This means the system is not very suitable for use on an 8256.

PLUSES • MINUSES

- ⊕ Audit trails are an auditor's dream.
- ⊕ Includes a facility to allow data to be used in WordStar, Multiplan or SuperCalc 2.
- ⊕ Superb prepayment facility.
- ⊕ Can run a number of companies separately.
- ⊕ Easily transported to bigger computers.
- ⊖ Lots of disc swapping necessary.
- ⊖ Can be slow to use — it runs in Mallard Basic.
- ⊖ A couple of mildly annoying quirks in cash allocation routine and account code system.

Camsoft PSIL

£149.95 • Cambrian Software • 0766 831878

GOOD FOR
SMALL Co.

Consists of live integrated packages: Sales, purchase and nominal ledgers, invoicing and stock control. In terms of sophistication it falls somewhere between the Sagesoft package and the larger systems from MAP and Compact. But it's easier to run than the larger packages since all the software can be squeezed into the M drive. Good package for a small company.

PLUSES • MINUSES

- ⊕ Comes installed for PCWs and can be run efficiently by 8256 or 8512.
- ⊕ No need for pre-printed stationery.
- ⊕ Excellent sort and search facilities.
- ⊕ Invoices shown on screen as you create them.
- ⊖ Constant need to input full five-digit account codes.
- ⊖ No final accounts reports available on nominal ledger.
- ⊖ No facility to run the ledgers in different accounting periods.

M.A.P. Accounts

£149.00 • MAP Computer Systems • 061-624 5662/3

POWERFUL!

This is a very powerful package moved onto the PCW at a fraction of its cost on larger micros. The size makes it a little cumbersome to use, but apart from that there are very few significant problems. The integrated suite includes the same five modules as Camsoft, but they are supplied on four sides of disc, making it effectively impossible for the software to be run as an integrated system on an unexpanded 8256.

PLUSES • MINUSES

- ⊕ A very comprehensive and professional package.
- ⊕ Very good audit trails.
- ⊕ It's possible to run the sales and purchase ledgers over a different time period from the nominal.
- ⊕ Facility for handling prepayments and accruals.

THE GOOD SOFTWARE FILE

ACCOUNTS WORD-PROCESSORS

- Able to print full management accounts.
- The size of the programs means lots of disc swapping.
- All normal responses need to be in upper case.

Small Business Accounts Made Simple

£99.95 • Micro Simplex • 0625 615375

SMALL TRADERS
BEST BUY

An accounts and VAT system specially designed for small businesses. Uses a special system of trading weeks and quarters, and links in bank transactions etc.

PLUSES • MINUSES

- Uses M drive to speed operation
- Comprehensive, easy-to-follow manual
- Handles special retailer VAT schemes
- Easy to use menus
- Very good audit trails
- Facility to provide simple profit and loss figures
- Use of accounting weeks makes it rather rigid
- Only suitable for simple cash trades

Sandpiper Accounts

£149.95 • Sandpiper Software • 0978 358832

This package is described as a 'simplified' integrated system and is aimed at inexperienced users. But although it offers a large number of features at a competitive price, it suffers from some serious drawbacks. In particular the limited audit and enquiry facilities will make it unsuitable for many businesses.

PLUSES • MINUSES

- Comes ready installed to run from the M drive.
- Price includes three months' telephone support.
- Very poor audit trails and lack of detail on nominal ledger.
- Analysis of sales and purchases very slow.
- It would be easy to wipe off transactions by accident mid month.
- The documentation is confusing.

Cavalier Install

£99.95 • Load & Run • 0322 7211673128

A comprehensive integrated package. Comprises 'Intact' accounts and 'InStock' stock control, available separately for £59.95 each. Well designed, easy to run and powerful enough for most businesses.

PLUSES • MINUSES

- Other packages (eg. 'Teleadd' address book) can be added too
- Comprehensive range of features when used as a package.
- Sophisticated features in InStock section covering pricing and order suggestion.
- Flexible accounts, traps most mistakes and gives useful report summaries
- Interesting forward planning facility in stock control
- Manual gives you a confusing number of options

Personal Tax Planner

£24.95 • Digita • 03954 5059

MONEY
SAVER!

A program which takes you through all the stages of filling out a tax return, and will tell you how big a rebate you are due (if any!).

PLUSES • MINUSES

- Simple to use
- Needs almost no knowledge of tax laws
- Keeps your income tax details all in one place, and prints out a neat summary
- You have to pay £10 if you want another year's allowances to be used
- Limited application -- you might only use it once a year

Simple Accounts

£34.95 • Cornix Software Ltd • 0462 682989

As simple to set up and run as the name implies although it is limited in its aims and can be slow. Does the basics for a small firm in sales and purchase ledgers quite efficiently.

PLUSES • MINUSES

- Needs little accounting experience to work effectively.
- Flexible enough to suit most small company set-ups.
- Runs in Basic and can be slow.
- Limited number of entries in each period so choose the accounting period carefully.
- Limited in its aims.

MAP Payroll

£49.00 • MAP Computer Systems • 061-624 5662

GOODVALUE

- Can amend and re-run at any stage (even after printing payslips)
- Cash analysis is broken down into departments
- System prevents re-use or amendment of leavers
- Facility to hold up to 40 standard hourly and weekly wage rates
- No SSP calculation facility (although there is provision to record amounts paid)
- Programs necessitate a lot of disc swapping
- Automatic amendment of tax code changes does not print a record of alterations made

SIMPLE AND
FLEXIBLE

Camsoft Payroll

£49.95 • Cambrian Software • 0766 831878

PLUSES • MINUSES

- Full payslip displayed on screen and any item can be amended immediately -- when accepted the payslip is printed at once with an optional file copy
- Facility for freehand narrative on any payslip
- Uses M drive for programs to speed operation
- Built in on-screen help facility
- Selective search and sort routine for output to screen, printer or disc
- Uses alphanumeric employee codes
- Screen menus somewhat untidy and sometimes difficult to follow
- No listing of cheques

Compact Payroll

£99.95 • Compact Software Ltd • 0306 887373

PLUSES • MINUSES

- Supplied with test data
- Good facility to change employees tax codes following budget
- Can run payroll for several companies
- Same program available for PC compatibles, and the data is transportable
- Must be run from the master discs
- Programs spread over two sides of a disc and run in BASIC
- Needs use of data input form and calculation of a check digit for each employee processed
- Once payslips are printed there is no chance of changing anything
- Most expensive payroll program

Sagesoft Popular Payroll

£69.95 • Sagesoft • 091-284 7077

PLUSES • MINUSES

- Any or all employees payroll can be rerun at any stage up to final update
- Full pay history available for all employees and leavers
- Calculates average pay for holidays etc
- Very easy to install
- Limited number of additions/deductions
- Doesn't print a list of cheques
- No analysis of additions/deductions

Colleen Payroll

£29.95 • Colleen Ltd • 0443 434846

PLUSES • MINUSES

- Comprehensive employee details
- Calculates wages rates from annual total
- Shows payslip on screen while creating
- Complete with good report generator
- Runs in BASIC and menu selections involve a lot of responses
- Comes with Tax and NI details blank with advice to look up details!
- Generally very complicated to implement
- Attempts to amend individual employees' pay after an automatic run (as advised in the manual) caused a program crash

Sandpiper Payroll

£79.95 • Sandpiper Software • 0978 355333

PLUSES • MINUSES

- Uses M drive to speed operation.
- Comprehensive SSP records.
- Cash analysis broken down into departments.
- Gives on screen review of payslips and allows amendments after payslips have been printed.
- Can only process one department at a time.
- Complicated installation and software protection procedures.
- Slow cursor movement and unhelpful positioning while making entries.
- Documentation not very thorough.

Cash Book

£39.95 • Micro Plus • 0424 224355

A simple Cashbook Analysis system. Works on a system of Nominal headings, ie. you set up the categories you want to use and refer to them by number afterwards. Extensive use of transaction numbers make finding a piece of information difficult. Effective enough, but with some quirks.

PLUSES • MINUSES

- Menu driven
- Simple to use
- Can correct errors after entry
- Limited referencing system makes entries hard to find
- You can only make entries for the current date

WORD PROCESSING

The PCW already comes bundled with a free word processor, LocoScript, so you might not think of buying another one as a priority. In fact, whatever you may have read in magazines, LocoScript is a pretty good word processor and you won't find many editing and layout functions that it doesn't have. Its principal disadvantage used to be its slowness, but with the release of LocoScript 2 all that has changed.

There are advantages to be had in changing. LocoScript cannot run from CP/M, and this may cause you trouble. Also, you often get a spelling checker thrown in free – look for one which allows its dictionary to be modified so you can include non-American spellings.

Many other word processors have a built in "mail merger" program. This is a way of doing bulk mailshots; you store your address list in a data file, and write a letter with labelled gaps where you want the names and addresses to go. Then, when you print, the letter comes out once for each address, with the information in its correct place.

One thing's for sure, whatever word processor you buy it will be totally different to operate from LocoScript. The PCW keyboard is custom built to run LocoScript, so if you change you will have to get used to some arcane choices of keys to do even simple operations. Also, you won't be able (very easily) to use all the printer styles that you can from LocoScript, although there will be enough to get by with.

LocoSpell

£39.95 • Locomotive/Amsoft • See special offers

A MUST FOR
LOCOSCRIPTERS

The ultimate spelling checker for LocoScript users. It is run as a simple menu choice while you are editing a document normally, and you can check either an entire document or only a paragraph. When it finds an error, it suggests a correction for you. Runs reasonably fast, given LocoScript's inherent sloth in the first place.

PLUSES • MINUSES

- ⊕ Runs totally from within LocoScript
- ⊕ Can do small sections of a file
- ⊕ Suggests alternatives for misspelled words
- ⊕ Reformats the text as it makes corrections
- ⊕ Provides the much-missed LocoScript word counter
- ⊖ Can't remove spellings you don't like (eg. -ize) from the dictionary
- ⊖ The manual gets bogged down in confusing details sometimes
- ⊖ Slow at scrolling the dictionary window looking for correct spellings

Prosspell

£29.95 • Arnor • 01-684 8009

BEST BUY!

This is a stand-alone spelling checker suitable for use with almost all word processors that run on the PCW machines. It can read LocoScript, WordStar and plain ASCII files. It flags up each wrong word as it finds it, and allows you to make corrections directly, view the context, change the dictionary etc. Speed is not bad.

PLUSES • MINUSES

- ⊕ Can check LocoScript and WordStar documents directly
- ⊕ Can display the context of a word to remind you what it should be
- ⊕ Can edit misspellings directly from Prosspell
- ⊕ Can update the dictionary interactively
- ⊕ It has anagram and crossword solvers too
- ⊖ It processes files of more than 15k or so in separate sections
- ⊖ You can't copy the dictionary to the M drive for speed

LocoMail

£39.95 • Locomotive Software/Amsoft • 0277 230222

BEST BUY!

As a mailmerger for LocoScript documents, it's difficult to see how anything could be much better than this. It runs directly from LocoScript, so you never have to use CP/M, and can process any LocoScript commands. Has many advanced features, and is highly recommended for all LocoScript users.

PLUSES • MINUSES

- ⊕ You don't have to run it from CP/M
- ⊕ Can print any LocoScript text formatting commands
- ⊕ Can automatically rejustify paragraphs after insertion
- ⊕ Can insert numeric calculations into letters
- ⊕ Can read data from non-LocoScript (ie. ASCII) files
- ⊕ Large manual, with example files on disc
- ⊖ No way to sort and filter addresses before a print run

Qmail

£29.95 • Proteus Computing • 01-748 2302

GREAT
VALUE

A mail merger specifically designed to work with LocoScript files. It scores over LocoMail in that it has a simple but effective database system to allow you to choose your target for a mailshot by marking them with 'attributes' and selecting – eg. only those customers who bought your product X.

PLUSES • MINUSES

- ⊕ Read LocoScript files unconverted
- ⊕ Prints all LocoScript commands properly
- ⊕ Well-designed database is ideal for mailmerging
- ⊕ Database 'attributes' provide an advanced selection capability
- ⊖ Manual is lacking in examples

Pocket WordStar

£49.95 • MicroPro/Davis Rubin Associates • 0386 841181

IT'S
WORDSTAR!

To many business users, word processing means using WordStar. Almost every feature you could need in a text processor is here and despite the title this "Pocket" version has all the features of the original. It has also been customised to use the PCW's full screen width and some of the keypad keys. However the program can be difficult to learn and some of the margin and formatting commands are cumbersome. Efficient and proven, but it is now showing its age and there are alternatives unless you are committed to WordStar already. For £20 extra, you can get the De Luxe version with spelling checker.

PLUSES • MINUSES

- ⊕ Probably the world's most widely used word-processor
- ⊕ Documentation is complex but well structured
- ⊕ Includes a mail merge utility
- ⊕ The keystroke commands are fully described on on-screen menus
- ⊕ You can save your own favourite customised version
- ⊖ Doesn't make full use of the PCW keyboard and printer
- ⊖ Page and margin formatting commands are awkward to use

NewWord

£69.00 • NewStar Software Ltd • 0277 220573

POWERFUL
AND PROVEN

NewWord sets out to exploit the WordStar market by doing just the same job but better. It uses much the same key commands as WordStar, and will even edit WordStar document files. It comes with a spelling checker. On-screen help is much better than WordStar, but the commands, being restricted by compatibility, are still as obscure.

PLUSES • MINUSES

- ⊕ Can do everything WordStar can, and even edit WordStar files
- ⊕ Makes good use of the PCW screen – actually shows underlining and bold text.
- ⊕ Clearer help messages than WordStar and good tutorial manual.
- ⊕ Has full reformatting of text within its mail merge
- ⊕ Good spelling checker as part of the price
- ⊕ Can un-erase words and lines – useful for moving them around
- ⊖ Weak on use of the keypad and printer support
- ⊖ Many of WordStar's disadvantages too, like formatting troubles and obscure commands.

Tasword 8000

£24.95 • Tasman Software • 0532 438301

An established word processor that is well tried and tested on Amstrad's CPC machines. Tasword's strength is its printer handling – it provides a host of customisation options for different printers, and a variety of print fonts too.

PLUSES • MINUSES

- ⊕ Clear, well structured on-screen help menus
- ⊕ A variety of printer controls and fonts available
- ⊕ Includes a reasonable mail merge program
- ⊕ Moving around big files is fast
- ⊕ You can easily create and save a customised version of the program
- ⊖ Doesn't treat [RETURN] as a character – it can lose paragraph endings.
- ⊖ Reformatting text blocks is quirky
- ⊖ Documentation is a bit brief
- ⊖ The search and replace function is limited and very slow

Tas-spell

£16.50 • Tasman Software • 0532 438301

If you are a dedicated Tasword user, this could be interesting, but otherwise it isn't a very good spelling checker. Very slow, can't read LocoScript or WordStar files. Still, cheap though.

PLUSES • MINUSES

- ⊕ Runs from within Tasword
- ⊕ Cheap
- ⊖ Very slow – around 200 words a minute
- ⊖ Only reads simple ASCII (ie. Tasword) files

AnsibleIndex

£49.50 • Ansible Information • 0672 62576

AUTHORS' BEST BUY

Takes a LocoScript file and compiles an alphabetical index with page numbers from all the words marked. You mark the words to be indexed by using LocoScript's [RV] code. The price includes the AnsibleCheck word counter/proof reader program too, which is also available separately at £19.50.

PLUSES • MINUSES

- [+] LocoScript documents don't have to be converted to ASCII
- [+] Can 'invert' phrases, eg. 'Smith, Fred' rather than 'Fred Smith'
- [+] Can produce a single index combining several different LocoScript files
- [+] Readable and comprehensive manual
- [+] The output index is not a LocoScript document until you convert it
- [+] You can only index words which appear literally, not general topics
- [+] The price will deter casual users

LernLoco

£16.95 • Minerva Systems • 0392 37756

A set of LocoScript files on a disc which are designed to be a step-by-step guide to using LocoScript. As you go through the lessons in turn, you print them out to form your own manual.

PLUSES • MINUSES

- [+] Covers most LocoScript's features in well organised lessons
- [+] Contains many useful tips and techniques
- [+] Style of writing is patronising
- [+] It is annoying to have to print out the documents as you go

Teach Yourself LocoScript

£14.95 • LINC • 0273 776576

Another disc of teach-yourself lessons for LocoScript. Better written and organised than LernLoco. The advantage over a book is that you can try things out as soon as you read about them, and see the effect on the text you are reading.

PLUSES • MINUSES

- [+] Well organised lessons for you to browse through as you like
- [+] Well-pitched style of writing does not talk down to you

Protext

£79.95 • Arnor • 01-684 8009

FAST AND POWERFUL

A powerful challenger for WordStar/NewWord as the best CP/M wordprocessor. Very fast at moving around large files, and packed with features. Works with key combinations rather than menus, but doesn't stick to WordStar conventions.

PLUSES • MINUSES

- [+] Complete with spelling checker and mail merger
- [+] Lets you work with two documents at once
- [+] You can do all of CP/M's functions without ever leaving the word processor
- [+] Very fast at moving around, doing exchanges and so on
- [+] Forces you to learn another new set of control keys to use it
- [+] Not as slick as LocoScript in its printer controls

Grammatik

£49.95 • Optronics • 01-892 8455

A program which attempts to check your writing style (not spelling). It looks for clichés, tautologies, sexism and so on. Potentially very useful, but to be taken with a pinch of salt.

PLUSES • MINUSES

- [+] Shows up grammatical problems you never knew you had
- [+] Marks up text for re-editing
- [+] Lets you build up your own jargon dictionaries
- [+] Needs to be used intelligently
- [+] Can't spot contextual errors
- [+] A little pricy for what it does

LocoScript 2

£19.95 • Locomotive Software • 0306 887902

ESSENTIAL PURCHASE

Much delayed but finally available, the new version of everyone's first word processor. If you know how LocoScript 1 works, you'll have minimal relearning to do, and it puts right (almost) all the defects of the old version at a rock bottom price.

PLUSES • MINUSES

- [+] 'Find page' command makes moving around faster
- [+] Superb range of foreign accents and symbols available
- [+] Can now drive daisywheel and other printers
- [+] Has DISCKIT's formatting and copying built into it
- [+] New 300-page manual
- [+] Mailmerger and spelling checker not included
- [+] Inconvenient for regular CP/M users
- [+] Still no word counter!
- [+] Still slow (compared to Protext/WordStar) at Find, Exchange and scrolling

TempDisc

£11.95 • Thurston Brown • 0395 68385

A set of ready-made TEMPLATE.STDS for you to embellish and use with LocoScript. Essentially for social/personal business use. Uses the LocoScript character set to build up fancy patterns -- you could win £10 from the suppliers by designing your own!

PLUSES • MINUSES

- [+] Using the disc tells you a lot about the intricacies of LocoScript
- [+] You can achieve professional results without reading too much of the LocoScript manual
- [+] You could write your own templates for free by reading the LocoScript manual
- [+] You have to like ornate characters to appreciate the templates

IBL

£14.95 • Eclipse Software • 0922 692258

102 LocoScript letters to cover every occasion, although some of the occasions are not exactly everyday -- such as politely declining a speaking engagement.

PLUSES • MINUSES

- [+] Saves you creating 102 standard letters of your own
- [+] Written in a reasonable style
- [+] Only a small number are seriously useful
- [+] The letters don't seem to have been spell checked very well

GAMES

No one could have predicted the remarkable way in which games software has taken off on the PCWs. On the face of it, the machine is not ideally built for games, but software houses have proved that impressive results can be obtained on it, and not just with text-based games -- your 8000 is capable of amazing graphics! The entertainment software available divides into two main categories:

ADVENTURES are probably the most common on the PCW. These are defined (by us anyway) as games controlled by *typed keyboard commands*. The program describes a scenario and you, the player have to respond by typing things like: GET SWORD or POLISH ORB WITH THE VELVET CLOTH. These programs vary greatly in their ability to recognise and respond to your instructions, and at their best seem unbelievably intelligent. Some of them include pictures of the various game locations, but these tend to play little part in actual game-play. We rate these by Atmosphere, Interaction, Challenge and Value.

In **ARCADE GAMES**, an animated character is moved onscreen by *direct keyboard (or joystick) control*. You press a key for 'Left' and the character goes left or shoots something. We rate these by Graphics, Addictiveness, Lasting Appeal and Value.

Blackstar

£14.95 • CRL • 01-533 2918

A traditional text adventure with large playing area. Your aim is to explore the mysterious Castle Blackstar and its caverns in search of a power orb.

ATMOSPHERE
INTERACTION
CHALLENGE
VALUE VERDICT

Nemesis

£15.95 • Advantage Software • 0844 52075

A package of four Arnold Blackwood adventure games. The attempts at humour are embarrassing, and the games are thin though well-designed.

ATMOSPHERE
INTERACTION
CHALLENGE
VALUE VERDICT

The Very Big Cave Adventure

£14.95 • CRL • 01-533 2918

Irreverent adventure spoof with plenty of corny jokes, like the credulous bull who guards a gully -- the Gully Bull. A nice break from serious adventuring.

ATMOSPHERE
INTERACTION
CHALLENGE
VALUE VERDICT

Annals of Rome

£17.95 • PSS • 0203 667556

A wargaming strategy program, set in the Roman Empire. You guide the Empire through 14 centuries of barbarians. Very detailed, but a bit slow and ragged.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Leather Goddesses of Phobos

£24.95 • Activision • 01-431 1101/2992

Lascivious, licentious and lewd -- definitely not for feminists! An excellent adventure game, spoofing up sci-fi and Soho at the same time. With 3D scratch'n'sniff card!

Graham Gooch's Test Cricket

£19.95 • Audiogenic • 0734 303663

A cricket match simulation with good animated graphics. You can select your own teams, control the speed of bowling and striking. For cricket fans.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Mountain Leader

CPC Minehead • 0643 4851

You are in charge of a mountain expedition. An adventure game which needs a strategic mind, but a bit dull unless you are a mountaineer.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Micro Trivia

£14.95 • Harold Gale Associates • 0902 772771

A sort of Mensa-approved Trivial Pursuit. Minimal graphic content, erratic scoring, and even the questions aren't very interesting.

GRAPHICS	□□□□
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

The Growing Pains of Adrian Mole

£14.95 • Virgin Games • 01-727 8070

Your chance to guide Sue Townsend's famous adolescent through life's tribulations. You answer multiple choice questions, to decide what happens next.

GRAPHICS	□□□□
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Tomahawk

£19.95 • Digital Integration • 0276 684959

An Apache helicopter flight simulator. Impressive cockpit view graphics as you engage in combat missions, and can be used with a joystick too.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Classic Invaders

£12.95 • Digita • 03954 5059

A simple version of the classic arcade game. Oozes nostalgia, but the slowish graphics and lack of sound don't really add up to any great atmosphere.

GRAPHICS	□□□□
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Tau Ceti

£19.95 • CRL • 01-533 2918

A superb game combining graphics, adventure, brainpower and shoot-'em-up. You play a space fighter pilot sent to sabotage Tau Ceti III's main reactor.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Trivial Pursuit

£19.95 • Domark • 01-947 5624

A computer version of the yuppie board game, full of new questions, complete with good graphics and even tunes! Even so, you might prefer the board version.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Hitch-Hikers' Guide to the Galaxy

£24.99 • Activision • 01-431 1101/2992

In many people's minds, the best adventure program written. Based on Douglas Adams' series, it is ingenious, hilarious and mind-boggling.

HILARIOUS!
SUPERB!

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Heroes of Karn

£17.95 • Interceptor Micros • 07356 71145/3711

Traditional adventure game -- you must rescue the four heroes and use their powers. Gives long and detailed descriptions of your progress.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Classic Collection

£14.95 • Tynesoft • 091-414 4611

A disc of three 'classic' games -- versions of Space Invaders, Pacman and Frogger. OK for nostalgia, but the graphics and responses are slow and plodding.

GRAPHICS	□□□□
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Scrabble

£19.95 • Virgin Leisure • 01-727 8070

An excellent implementation of the famous game. 1 to 4 people can play the computer, which itself knows a fair few obscure words. Good graphical display.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Fairlight

£14.95 • The Edge • 01-831 1801

A fine 3-D graphic adventure with similar screen display to Batman. You must explore a castle prison, battle with numerous enemies and solve puzzles.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Colossus Chess 4.0

£15.95 • CDS Software • 0302 21134

A very strong chess game which manages to use the time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Cyrus II Chess

£15.95 • Amssoft • 0277 230222

A chess game with a stunningly detailed 3-D display. The play is quite strong, and it has several handy features like allowing you to take back a move.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

3D Clock Chess

£15.95 • CP Software • 099382 3463

The '3D' refers to a three dimensional display of a chess clock on the screen. Pretty, but a bit of a gimmick. You can set time limits for moves.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Bridge Player III

£19.95 • CP Software • 099382 3463

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. It claims not to cheat, even though it deals!

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Batman

£14.95 • Ocean Software • 061-832 6633

Good 3-D animated graphics as you guide Batman around Gotham City, looking for the hidden parts of the Batcave. Good range of hazards, and even a tune!

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

THE GOOD SOFTWARE FILE

GAMES

Moonmist

£24.95 • Infocom/Activision • 01-431 1101

An American Tourist's dream, set in a genuine haunted Cornish castle. Strong on atmosphere and immensely playable.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Head Over Heels

£14.95 • Ocean • 061 832 6633

A superlative 3D arcade adventure. Escape from Castle Blacktooth and free the Empire's enslaved planets. Compulsive!

SUPERLATIVE!

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

The Fourth Protocol

£15.99 • Ariolasoft • 01-386 3411

An icon-driven adventure that works superbly well. Stop the Russians from setting off a nuclear device in the UK. Three excellent games on the one disc.

SINISTER BUT FUN!

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Hollywood Hijinx

£24.95 • Infocom/Activision • 01-431 1101

A good skit on Hollywood and its conventions. Find ten treasures hidden in Aunt Hildegarde's beautiful mansion. Might not suit the British palate.

GREAT VALUE!

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Starglider

£24.95 • Rainbird • 01-240 8838

A sophisticated shoot-'em-up with 3D vector graphics and a dose of strategy too. Your task is to save Noveria, helped by zap guns plus complex playing guide.

GREAT VALUE!

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Steve Davis Snooker

£14.95 • CDS • 0302 21134

Surprisingly realistic simulation of both pool and snooker games. Allows for spin, side, strength of shot. Good value, despite all the balls being greens!

SIMPLE AND HUMOROUS

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

The Archers

£13.00 • Mosaic/WHS Distributors • 0533 551196

By answering a series of multiple choice questions, you decide the fate of your favourite Archers characters. If the ratings drop, you get the boot.

SIMPLE AND HUMOROUS

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Silicon Dreams

£19.95 • Rainbird • 01-240 8838

A trilogy of intriguing adventure games. You are secret agent Kim Kimberley saving Snowball 9 from almost certain doom!

FULL OF BOUNCE!

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Brian Clough's Football Fortunes

£17.95 • CDS • 0302 21134

A cross between Monopoly and Football Manager, combining board and PCW. Lead your team to league and cup success – but keep the bank manager happy too!

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Strike Force Harrier

£19.95 • Microsoft • 01-377 4645

A combat simulation of a Hawker Harrier, designed in conjunction with British Aerospace. Highly detailed, and you'll need to put a few hours in with the manual.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

THE GOOD SOFTWARE FILE

GAMES

SOPHISTICATED

The Pawn

£24.95 • Rainbird • 01-240 8838

An excellent adventure with 30 superb screen illustrations, zany characters and baffling puzzles. Should keep you entranced for hours.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Guardian and Blagger

£14.95 • Alligata • 0742 755796

A two-game package giving the lighter side of game playing. Blagger is a platform burglar game, Guardian a classic space shoot-'em-up.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Heathrow Air Traffic Control/Southern Belle

£16.95 • Hewson • 56b Milton Trading Estate, Abingdon, OX14 4RX

Realistic simulations for enthusiasts. Heathrow ATC puts you in the hot seat of the country's major airport; Southern Belle gives you the footplate of a steam train.

GRAPHICS	██████
ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

Lord of the Rings

£19.95 • Melbourne House • 01-377 8411

Excellent adaptation of the Tolkien classic tale. You assume the role of Frodo or one of his group, and rove through Middle Earth meeting balrogs, orcs, wargs and all.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Sorceror

£24.95 • Infocom/Activision • 01-431 1101

Enter the world of necromancy and sorcery courtesy of Infocom. It's your job to find out the correct spells which will locate Belboz, your missing master.

ATMOSPHERE	██████
INTERACTION	██████
CHALLENGE	██████
VALUE VERDICT	██████

Bounder

£13.95 • Gremlin Graphics • 0742 753423

A graphics bouncing-ball game. You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

ADDICTIVENESS	██████
LASTING APPEAL	██████
VALUE VERDICT	██████

NEXT MONTH

The guide continues next month with the categories of DATABASES, COMMUNICATIONS and GRAPHICS. The month after that will cover SPREADSHEETS, UTILITIES and EDUCATIONAL software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.50 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

The UPGRADE

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Rumour has it there are still some unfortunate PCW owners out there who haven't yet discovered this remarkable TipOffs book. It's absolutely packed with goodies.

Not only does it contain the complete range of TipOffs published in the first six issues of 8000 Plus, there's also the series of (so we're told) outstanding tutorial articles on LocoScript and CP/M reprinted from those issues.

And to tie the whole package together is a comprehensive index, published here for the first time. So now at last you can turn instantly to the information you know we published somewhere, but can't remember where.

So many crucial TipOffs were covered in the first six issues of 8000 Plus, this compilation has become regarded as a really valuable reference book, especially as most of the issues the information is taken from are now, sadly, sold out.

The 8000 Plus TipOffs Collection is printed on crisp, high-quality paper with a glossy colour cover, and we think it deserves a permanent place next to your PCW.



SPECIAL OFFERS

SPECIAL OFFERS

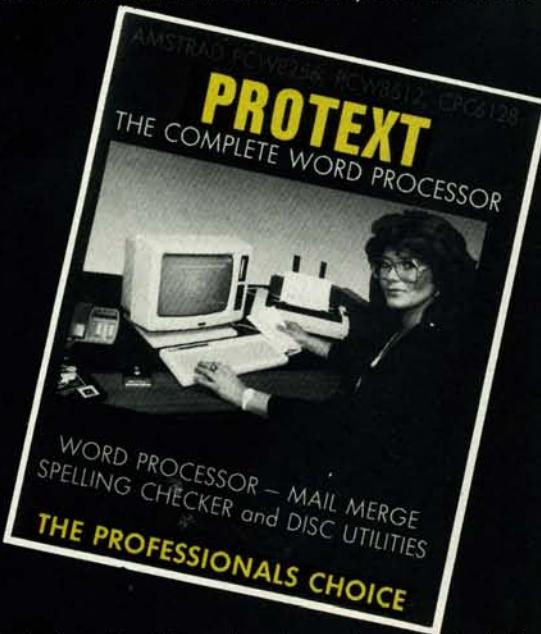
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What makes the package particularly good value for money is that it includes the much-praised spelling checker *ProSpell* AND Arnor's excellent mailmerge program *ProMerge*. So with a single purchase you can probably satisfy all your word-processing needs.

If you've been brought up on LocoScript, you'll find *Protext* takes some adjusting to – commands are issued by means of brief key sequences rather than pull-down menus. But these are logically thought out, and help is available on screen at any time.

If speed of use is high on your list of priorities, *Protext* could be the software you've been waiting for.

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FEBRUARY

Guide to upgrading your printer. Reviews of *Protext*, *Trivial Pursuit*, *Strike Force Harrier*, *FT=DB*.

MARCH

Transferring files to a PC. Reviews of *Masterfile*, *BCPL*, books, *The Pawn*.

APRIL

Using spreadsheets, reviews of *Cavalier accounts*, *Stockmarket*, trouble-shooting *LocoScript*.

MAY

LocoScript 2 reviewed in detail. Also *Newsdesk*, *AMX Mouse*, modems, public domain software.

JUNE

Fleet Street Editor reviewed. Step by step memory upgrade guide, reviews of *Rombo digitiser*, *Head Over Heels*, Free disk labels.

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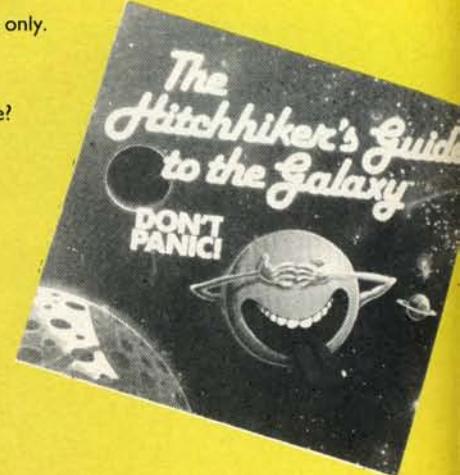
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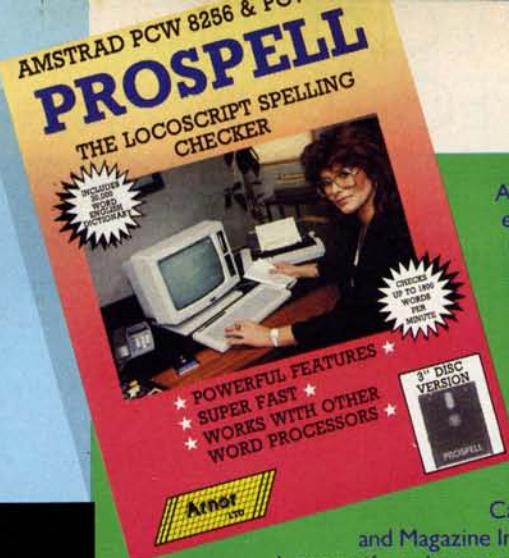
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A really sensible, cost-effective add-on for your PCW.

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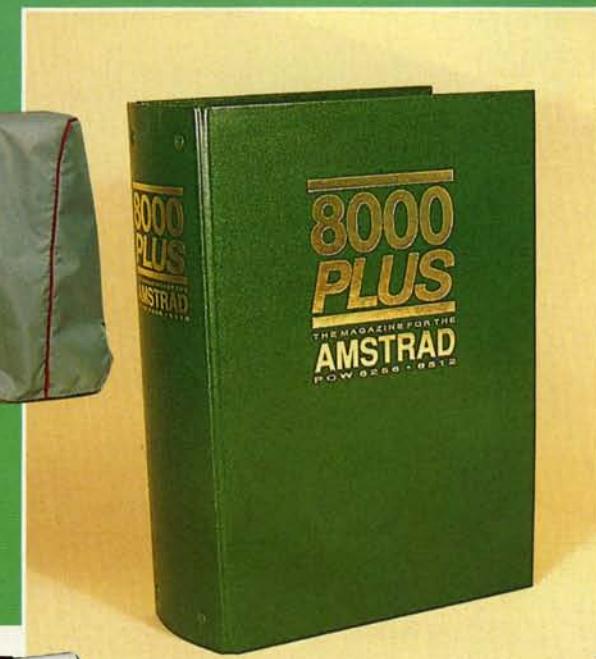
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Although such packages have been released before, this one's trump card is that it can be accessed from *within* LocoScript. All you do is tap a couple of keys and down comes a menu. You could select, say, the address book, then ask the program to find the address for Joe Bloggs. Press 'Copy' and the address drops into the letter you're writing.

Another couple of key-presses and you're back using LocoScript. The whole process can take a few seconds. No disk changes, no reloading.

Many writers will find the word-counter facility invaluable. It's impressively fast, and offers the facility to total a word-count over several different files. Once again you don't have to leave LocoScript to use it.

There's also a calendar to look up the date of your choice in the year of your choice. And a facility for coding documents to protect unauthorised prying. The package is straightforward to install, being supplied with a program which will allow you to create new LocoScript discs which automatically incorporate the Hotshot utilities. Please note it is compatible with LocoScript version 1.2 only, and uses up 61K of the M drive. (If you want to use it with LocoSpell or LocoMail you need an expanded M drive or an 8512.)

For someone who uses LocoScript a lot, and wants to extend the PCW's power without constant loading and reloading, this could be just what you've been waiting for.

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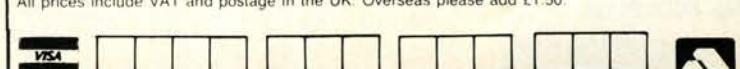
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POSTSCRIPT

A meander through month's mass of mail with a masochistic Ed.

The 8000 Plus postbag is getting a little sluggish as the sultry summer months encroach, but there's still a lively batch of letters to report. Think of us while you are sunning yourselves in Torremolinos – we're always pleased to hear from readers whether it be complaints, compliments, queries or just a holiday postcard (maybe we'll award a suitable prize to the best, or worst, postcard of the month!)

If you would like your voice to be heard, write to *PostScript, 8000 Plus, 4 Queen Street, Bath BA1 1EJ*. Sorry, but no personal replies.

Disco dancing

I have just bought a copy of the 'Sage Retrieve' Database for my PCW but I didn't realise until I got it home that with the machine I have got (the PCW 8256 single disc drive) it is a total nightmare to use. For example I used Retrieve's 'Enquiry Processor' with the command **SORT BOOKS ON FIELD 4 SHOW 1 2 3 4**.

It then took me 23 disc swaps before it came up with the results. 'BOOKS' is the name of the database file. I obviously need a second disc drive but at the moment I can't afford one so what I would like to know is if I bought the extra chips and upgraded it to a 512k memory, would I be able to transfer using PIP all the Retrieve program files from the master disc onto the 'M' drive, put the data disc in the 'A drive' and use Retrieve without having to make any disc swaps at all?

**K. Barclay
Hartlepool**

Floppy discs hold 173k of data per side, and a full 8512-size M drive holds 368k. Therefore a little maths shows you can store over two entire A-type disc sides in a full M drive which should solve your swapping problems. However, some programs are written in such a way that they must be run from drive A, so you should check with Sage to see if Retrieve will run correctly from M.

Pour encourager les autres

I have a PCW8256 and had been considering upgrading the memory for some time. This would enable me to run long programs direct from M: Drive and speed up file transfers.

Until I read issue 9 of 8000 Plus, I thought one had to have at least a degree in electronics in order to make the conversion! However the article showed it could be done by the layman so I decided to purchase and upgrade it.

I chose the one from MEAC Designs as this was one of the cheapest. The kit took only 3 days to arrive and the instructions provided were clear.

I managed to fit the chips in less than 15 minutes and could not believe how easy it was. Do Dictaphone really charge £40 to do the job professionally?

Any other 8000 plus reader contemplating doing the upgrade themselves should not be put off by thinking that any technical expertise is required – the job could not be any simpler.

**John Sorsby
Farnham, Surrey**

Trussed trust

I'd like to give a puff to one of the mail order dealers advertising in 8000 Plus. I am recovering from a

slipped disc, and have to lie in bed on my back all day and night. Apart from books, all that relieves the boredom is the Amstrad – with the keyboard on my chest I can play games with it.

I phoned Euromark International to order a game of *Steve Davis' Snooker*, mentioning my condition to hurry them up. Five hours later a ring at the door and it is delivered personally by one of their members of staff. And on top of that, a note inside saying they had been unable to process my Access card, so could I send a cheque?

Trust, courtesy and exceptional service all seem to prove that the personal touch has survived even into the computer age. But it is rare to encounter it, so make my thanks public please.

**David Nissan
London, NW3**

Are you sure you don't work for Euromark's PR agency?

Too clever by half

I look forward to the delivery of your excellent magazine every month.

I've just entered your *Give a Mouse a Home* competition in the June issue, where Rule 1 informs us that entries must arrive no later than June 20th and winners will be announced in the July issue. So it is with interest I note that on page 5 we are told that the July issue will be on sale from June 11.

Does this mean I shall be able to see if I've won before I've entered?

**N.J. Hay
Basingstoke, Hants**

OK clever clogs, so we made a mistake. Unfortunately a similar error on this month's keywords page has resulted in your name being missed off the list of winners. Sorry!

The zero option

I have been using my Amstrad 8256 to generate simple invoices using BASIC programs which I have written. These involve simple calculations to give a total, eg. $10 \text{ items} \times £1.15 = £11.50$. Despite all attempts to include the last zero, the program insists on printing the result as £11.5, so that with columns of figures the result is untidy. How can I stop it deleting the final zero? Incidentally this applies to all calculations I try to program – how can I get it to print the result of a multiplication as 11.50000 (if I want to!) rather than 11.5?

**Philip C. Weston
London, SE9**

There is an extension to the ordinary print command that will solve your troubles – look on page 134 of the PCW BASIC manual for the PRINT USING option. If your variable 'item' contains 11.5 as you say, then PRINT USING "#.##"; item will print out 11.50, and PRINT USING "##.#####"; item will print 11.50000. In other words, BASIC is forced to print a digit for every # in the USING pattern.

Printer problem

I intend to replace the PCW8512 printer by a Matsushita/"Panasonic" KX-P1092 (FX-80 emulating) dot matrix printing with a Centronics parallel interface. Can this printer be connected to the same port as to which the PCW printer is now connected? If so, please give the connector-pin configuration for the lead. If not, please explain in principle why, or else, what minor adaptations would be necessary to make it possible.

If on the other hand an interface is absolutely needed, could you mention make and type of "Centronics" parallel (only) interfaces available from peripheral suppliers in Britain?

Will the "Panasonic" print in the same fashion as the PCW printer, using LocoScript or Protext?

**Tan Sintuan
Amsterdam, The Netherlands**

Different printers can't be directly connected to the existing printer socket. The ordinary PCW printer is specially built for low cost and doesn't use the standard industry Centronics-type interface. You will need to buy an Amstrad CPS8256 Serial/Parallel interface unit (around £60) which slots onto the PCW expansion port, and plug the printer into that. Protext and LocoScript 2 will both drive the new printer perfectly well, although you won't be able to get

some of the more esoteric characters.

A slight hitch

I am having problems with the "The Hitchhiker's Guide to the Galaxy"; namely that I cannot get the printer to print out a properly laid out script without inserting carriage returns at odd places and splitting words between lines.

I have found various methods printed in your magazine (type SUBMIT PROFILE for instance) for combating this but have not had any success. Also there is only data on one side of the disc.

I would be most grateful if you could let me know how to get a decent printout.

Mark Glinister
Wirral, Cheshire

Hitchhiker's Guide has appeared in several different forms because the distributors changed a few months ago – both versions give the same game, but differ in the way to run them. The SUBMIT PROFILE tip you refer to only applies to old versions. The old version only used 80 columns of the screen, but the new version uses all 90. However, since the printer is only 80 columns wide, the new version prints out as you describe. You should find several files on the disc (look with DIR), one of which is called HITC6128.COM (intended for the 80-column wide Amstrad CPC6128 computer screens). If you run this program (type HITC6128 [RETURN]) you will get the same game on a narrower screen, and the printer output should work properly.

Salesman's horror

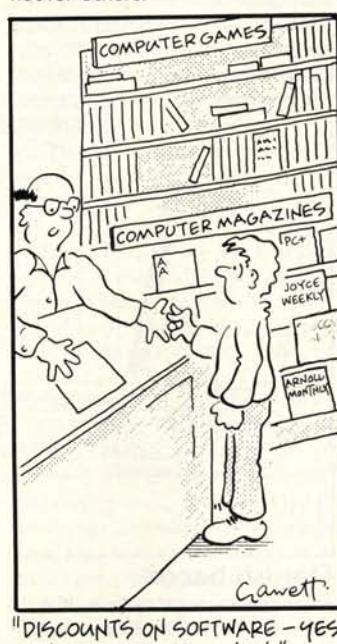
After recently deciding to invest in a spreadsheet, I was amazed to find such a large variation in the sale price of the items under consideration. Having already decided that my choice was to be between SuperCalc 2 and Cracker 2 (rrp £49 for either), I scanned your advertisements to discover both spreadsheets on offer at prices as low as £39.

To help decide which of the two was most suitable for my requirements, I visited several local computer shops. Some of the salesmen noted my obvious displeasure in seeing price tags of £49 and when I quoted the prices I had seen advertised, most offered an immediate reduction. In the end I purchased my Cracker 2 for under £40. So remember, if you don't ask you won't get it.

Chris Walker
Tadcaster, N. Yorks

Lucky you – whenever I try that kind of thing salesmen usually slap

£10 onto the price straight away. It's a bit unfair to expect shops to match mail order prices, since they have overheads to cover. In a shop, you expect advice from salesmen, to be able to try before you buy, and some after-sales service. Mail order houses don't offer any of these services, so can cut the price. This is fine for some buyers, but not for others.



Crudely speaking

I recently purchased *The Very Big Cave Adventure* game by CRL and have found the game fairly entertaining.

After a frustrating session "adventuring" I instructed the computer to go forth and multiply (only not in so many words!). To my surprise my instruction was clearly understood and I was whisked away into a swear box. The room had no doors or windows and finding the way out certainly proved interesting. I will not spoil it for other "adventurers" by saying how!

John Sorsby
Farnham, Surrey

Well, **** me down with a *****

Bear-faced cheek

Being a bear of very little brain, and having left school more years ago than I care to remember with nothing more under my belt than an 'O' Level in Abacus calculation, I have surprised myself by taking to the PCW like a duck to water.

I like to set myself a small task in an effort to understand more fully the workings of the computer (gawd!) and spent some considerable time this evening in Thistles Wine Bar in the Bush trying to figure out how

hexadecimal 234
 $(2 \times 256) + (3 \times 16) + (4 \times 1)$ could be 8244 in decimal. Several glasses of wine later and having accosted various serious and mathematical-looking chaps (in search of enlightenment I hasten to add) I have come to the conclusion that perhaps a teensy weensy mistake has been made.

So if you see Sid, (Page 49 Issue 9 June 1987) please could you tell

Life story

As one of the first purchasers of a PCW8256 and a reader of 8000 Plus from the first issue, I can no longer imagine my professional life without those three grey plastic boxes and what can only be called the sub-culture that has grown up around them! It differs from other groups of computer-users because its 'members' get excited when they find new or better ways of making their hardware and software do useful things: ie. the technology is less important than its applications. Every issue of 8000 Plus has the 'feel' of a manual for making the PCW more useful and for that reason it addresses more successfully than its competitors the kinds of PCW user on whom, I'm certain, the success of the machine rests.

These people were previously wary of computers, not because of any techno-phobia or an inability to develop basic computer literacy, but because they were not convinced that a micro would be useful enough to them to justify the time and effort needed to familiarise themselves with one. The PCW's price made the risk worth taking and the early confidence of software houses such as Caxton and Newstar ensured that the hardware did indeed turn out to be genuinely useful. I'm sure there are many users like myself for whom the initial encounter with such helpful and efficient software suppliers was all the encouragement we needed to discover life after-Locuscript!

But it can still be confusing out there, which brings me to the enquiry. I do theoretical and practical research, as an academic, in visual studies. The PCW (with NewWord, Cambase and Brainstorm) takes care of all my writing and information handling (with Chibase or FT=DB likely to make a contribution soon). So far so good. But it looks very much as though my practical work in video graphics, animation, etc. will soon entail using an Atari 520ST. Indeed I know a number of college and university lecturers who may upgrade (while continuing to use their PCWs) to the 520ST. So the question is this: is there any

him that 234 in hex is not 8244, but merely 564.

Samantha Vause
London, W12

Strange you should say that, because the editorial team also spent many hours in the wine bar working out the example you refer to... then again, maybe that explains why it was wrong.

configuration of hardware and software that will enable fairly painless transfer of text files between a PCW and a 520ST?

Ideally I'd like to use a good wordprocessing package on the Atari when I'm not using it for graphics work, take the discs home and be able to load the text files into NewWord on the PCW for further work. If in setting up a configuration that could do this I got an additional disc drive for use when using the PCW on its own, so much the better. Secondly, and just to complicate things, I do a lot of note-taking and writing in university libraries. At the moment this all has to get keyed in back at the office. Would it be possible to use something like the Psion Organiser to do this and transfer the information to the PCW via the RS232 interface? Or indeed might it be possible to use Sinclair's Z88 to do this, if it ever appears? I hope these don't seem like too far-fetched ambitions but I'm sure many hardened PCW users are beginning to look for such ways of getting just what they want out of the available technology.

Dan Fleming
Alva, Clackmannanshire

This is certainly an area of growing interest. Inevitably, at some time in the future the PCW will die out, and many owners will want to transfer their valuable data onto new machines. Just as now you can add on IBM PC-compatible disc drives to a PCW, so you may well be able to add on ST-compatible drives in the future. Failing this, transferring files through a RS232 serial link as you suggest should work. However, the ST is a very different type of machine, and the kind of word processing software it uses may make it inconvenient, though not impossible, to switch files around on a regular basis.

As to Sinclair's Z88 (a sub-£200 portable computer/word processor, for those not in the know), it sounds an ideal companion for mobile writers. The latest estimate of a release date I heard was August, and it may even make a guest appearance for review in 8000 Plus.

POSTSCRIPT

Angry of Glamorgan
I decided to invest in an Amstrad 8512 to use as a word-processor. After three months the 8512 refused to boot-up, so I took it back to the suppliers....

"Very sorry sir, we don't have much trouble with these machines, but as it's still under guarantee it will have to go back to the makers. It'll take about three weeks!"

After seven weeks I walked into the shop on a crowded Saturday morning and told the computer department manager what I thought about them in rather a loud voice. "If Sir would just wait a few moments!" disappearing into the back of the shop to return carrying a 8512 VDU. "We don't normally loan machines, but..." When I got it home Drive A refused to record, although the same disc worked in Drive B making it impossible to use some programs, so I bought a CPC6128.

I had not done my homework, and, although my new computer used exactly the same discs as the PCW, the format is different, so they are not interchangeable.

Amstrad returned my PCW after exactly 13 weeks. The engineers report said that the MPU chip had been replaced, a job which should not take more than half an hour or cost a great deal more than a couple of pounds. Black mark to Mr. Sugar.

So now I have two computers, which I find useful at times. It would be much more useful if I could transfer information between them, but everything I have tried so far has been a failure.

A second point: the arrival of your June copy game me a shock. You have increased the price by TWENTY PER CENT! Your efforts to justify this are really pathetic. You talk about the cover price as if one buys a periodical purely for its outer: personally if you continued to produce your well-balanced, informative magazine without its glossy, expensive advertisement-laden cover I would still subscribe.

Harvey W. Mansfield
Barry, South Glamorgan

Buying a CPC6128 to fill in while your PCW isn't working seems a little strange, but mine not to reason why. Anyway, things aren't quite as bad as they seem. Make sure you format all your discs on the 6128, because PCWs can read and write to CPC format discs, but CPCs can't get at PCW format discs. Now you can read any file on either machine. The only points to beware of are that you won't be able to copy CPC format discs using the PCW's DISCKIT, nor will you be able to use CPC format

discs to make PCW start-of-day discs with. LocoScript may also be confused by these discs.

As to the price rise, you may like to know that we have only had one letter of complaint (honestly!) – guess whose? Anyway, it gives you even more reason to carry on subscribing since our subscription rates haven't risen. And we'd love to drop our expensive, glossy ads as long as you will make up the lost revenue? Is a cover price of £5 OK by you?

APL of the eye

In reply to G.R. Streeter; the only CP/M APL implementation that I know of is VIZ:APL which costs £250. However the Free International APL group is writing an interpreter which it is intending to issue free to any interested school. The PCW is not unfortunately among the range of machines that it is being written for but the Spectrum and the MSX range are, so perhaps a conversion may be possible. The man to contact is the Chairman of the British APL Association, Anthony Camacho, 2 Blenheim Road, St. Albans, Herts.

J.T. Brien
Ballinamallard, Co.
Fermanagh

This way up

Yours upside-down,
sideways on,
reading tiny arrows on 1/4" labels
now, but this doesn't yet extend to reading screens, instructions etc by we're all supposed to be experts. Half of the drive. Now I know where I am using in the lower half used to seeing the program or has no sense of direction and is except for someone like me who No great problem, of course, the discs. Point the opposite way to those on program – because the arrows of the drive, I load the wrong relevant disc name in the lower half my usual fashion, i.e. with that if I put the disc in the drive in two I discovered, (the hard way), was about to order a packet of labels – a great idea – BUT!! A151 Many thanks for the free coloured

Maureen Sutton
St. Ives, Cornwall

Why should we blindly follow the arbitrary conventions of others? Just because all the other 3" discs in the world (and there are only a few million of them) have the number at the bottom of the spine, is that any reason for us to do so?

Wrong number

On the strength of the article in the May edition of 8000 Plus, I bought the combined package of WS4000 and Dialup. I think you ought to know that version 2.1.1 of Dialup does not work with the Amstrad PCW in that you cannot download any files other than text ones. PMS have been very helpful and supplied me with version 2.1.2 and although this is better it still has many bugs. Although PMS are being very co-operative I feel that

you should point out to your readers that it is not a "good buy" until the bugs have been removed.

Did your reviewer actually have it up and running or did he rely as I did on the supplier's literature?

Frank Jones
Aylesbury, Bucks

Thanks for the warning – PMS say that version 2.2 works properly and was scheduled to be on sale from 26th June.



Danish bacon

After reading your review (March) I sent for Masterfile 8000, which arrived promptly and has delighted me by several improvements since your review version, including the addition of field-to-field arithmetic and the facility to move backwards when browsing through records of a file – both points raised by your reviewer.

However, I have hit problems with foreign language sets. Keying Danish characters, à, æ, ø ([ALT] + 8/9/0) displays correctly on screen, but prints as w, v, x (italic). Accents can not be placed above letters; the cursor moves forward, and attempts to overprint deletes the accent. Some other special characters fail both on screen and in print: ç becomes u, « becomes +.

Campbell Systems have been most kind, but unable to solve the problem. Can you help?

Henning Brondum-Nielsen
Rannoch Station, Perthshire

Generally speaking it is quite hard to print out foreign characters from CP/M (for the technically minded, special characters have ASCII codes above 128, but the convention on printers is that codes above 128 mean 'print in italics the character whose code is this minus 128'). Your best course of action is to do your database printout to a disc file, not direct to the printer, and use a wordprocessor to massage the results.

Smear test

You had a letter in the July issue from Jennifer Henley of Ealing, bemoaning the smudge at the top of her 100 gsm paper. I may be alone in my lack of mechanical ability, but it does help to move the print head back and it took me 9 months to find the mechanism: lift the black piece of plastic on the printer as if threatening to change the printer ribbon. On the right hand side of the innards there is a blue piece of plastic which you move down and back to pull the print head back from the paper. This letter is printed on high gsm paper on a PCW and there is no problem. However, as you will notice, the envelope is hand written for that "all important personal touch."

R.A. Ledingham
HPA Systems, Hethe, Oxon

Praise and problems

May I congratulate the author of 'Square One' (pp 49/50 of the July Issue). There is someone who understands the comprehension problems of a beginner.

Communication in the computer world is a major problem due to lack of imagination on the part of the experts. Really effective communicators I find difficult to unearth. More articles like this, please.

Question from a grateful beginner. Having bought a very good little Basic program which I

can run and use domestically to great effect as either a simple database or a 'bank manager', the programmer seems determined, perhaps wisely, to stop me inspecting the actual listings. How do I break in in order to admire his valuable handiwork?

John Waddington
Ely, Cambridgeshire

Nice to know it was useful – we'll try to keep a mix of beginners' material in future issues. How to crack the BASIC protection system seems to be an open secret now, so no harm spreading it: create a totally empty file (by NEW then SAVE "DUMMY" in BASIC). Load the file to be unprotected, then MERGE "DUMMY". Since DUMMY is not protected, it unprotects the main file. Now you can list it and re-save it as an unprotected file.

Waterflea in your ear

"What a load of rubbish!". Not your magazine, I hasten to add, as I find this very interesting and the articles distressingly (sometimes) time consuming when I can't get my PCW to do as I tell it!

No the title refers to a response I got from my PCW after playing with John Connell's Waterflea (Logo article, July issue) – I am presuming that everyone knows what John's Waterflea is like otherwise they might get quite the wrong idea. Anyway, to the point, after setting up his Listing 2 and then running it x 100, I got an urgent call (must have been the thought of all that water in the pond) and when I came back to the screen I was greeted with *Out of Logo stack during garbage collection* and then when I curtly replied it said *I don't have any logo nodes left!*

Now I'm fairly new to this Logo lark but nevertheless I am not used, nor do I want to be, to being greeted by these sort of remarks, the more so since I haven't a clue what is talking about and bearing in mind that I do treat it with respect and never enter any rude words. Can you, please, explain and tell me where I offended Logo and who put these words into its poor defenceless memory?

John Batterbee
Pickering, N. Yorks

Strange messages indeed. The 'Out of stack' business is because 'Waterflea' is written as a recursive procedure, and each time it calls itself it uses up a bit more workspace. After a large number of calls, it runs out of memory (or 'stack'). This is one of the pitfalls of recursion – John Connell explains all in this month's Logo article.

Working the system

I expanded my 8256, so that I would no longer have 'overlay' problems in running SuperCalc2, but I seem to have replaced them with something else. I do not seem to be able to run SC2 from Drive M.

I read Mr. Mann's letter, and your answer, in the June issue and tried to go from there. I first pipped SC2.* into drive M and then did a 'DIR' of M, but there was no file SC2.COM in the memory. I then did a DIR of my working SC disc; no file. Finally, I did a directory of the Master SC disc. Again no file.

Is this why I can't run SC from drive M?

If so, why does my working disc run OK in drive A? Why then, if I copy the complete working disc into drive M and change the drive to M, it will not work, (it answers "SC2?") even though all the files show on a DIR on M?

Please help. My brain is going round in circles. Am I doing something wrong? Did I do something wrong when I added the new chips, although all the standard tests say I have been successful? Or have I got a faulty SuperCalc disc and, if so, why does it work in drive A?

I am sure it is problems of this sort which put beginners, like me, off computing. It's a good job I bought it mainly as a Word Processor!.

R.W. Dean
Carshalton, Surrey

It seems that Amstrad have recently begun distributing SuperCalc with the file SC2.COM hidden as a 'system file'. This means that you can run it normally, but DIR and PIP won't see it. If you copy the disc to M with PIP's R option, you should be OK: PIP M:=A:.R [RETURN]*

Infocom info

Can you please tell me whether you can supply an Invisicubes Hint Book for The Hitchhiker's Guide to the Galaxy Game that I bought from you earlier in the year. It is driving both my husband and I up the wall, it is so frustrating! We both feel a little help is in order.

If you cannot supply the book can you tell us whether it can be obtained in this country or if we will have to apply to Infocom in America.

Mrs. Lynn Brunt
Watford

The current Infocom main distributors over here are Activision (01-431 1101), who will supply clue books for all their games at £6.99

Protection racket (1)

Thanks for publishing my letter in your July 1987 issue; but no thanks for missing the point I was making. I certainly wasn't trying to label the Data Protection Act as an "attack on democracy", nor construct a theory of history – simply drawing people's attention to the thoroughgoing authoritarianism that has characterised the Thatcher government for the past eight years, and will no doubt continue to characterise it for the next eight. Britain is now the only nation in Western Europe that does not have a Bill of Rights and a Freedom of Information Act — even the right-wing governments that currently hold power in France and Germany are more liberal than our own. That anyone can believe such a political climate as ours is not a threat to civil liberties, and that under it they are genuinely free, simply astounds me.

Joseph Nicholson
London, SW1V

You're quite right, we ought to have an effective Freedom of Information act – it is absurd that someone has a right to know what data is held on computer, but not if that same data is written down on manual files. Having said which, I don't know how the French and German acts operate, but the US version seems pretty cosmetic to me. Anything really important is censored for 'National Security' reasons, and anyway it takes about two years to get any action taken. More of an international PR stunt than an effective act.

And Maggie for eight more years? Do you know something I don't?

Protection racket (2)

In your article "Beating Big Brother" (May issue) we were pleased to see that you drew readers' attention to the Data Protection Act.

The article states, however, that "There are exceptions to your right of access. You aren't entitled to see your police or tax records, or most Government bodies' records."

This statement is incorrect and misleading. It is true that there are some conditional exemptions from the "subject access right" available to the police and tax authorities in certain circumstances. For example, the police are only exempt from having to provide this information where the data is held for:

- the prevention or detection of crime, or
- the apprehension or

prosecution of offenders, and to give the data would be likely to prejudice one of these matters. Data held for the assessment or collection of any tax or duty may also be withheld from the Data Subject, again only if allowing subject access would be likely to prejudice one of these matters. Both of these exemptions may only be exercised on a case by case basis and their use is challengeable to the Registrar or the Courts.

There is also an unconditional exemption from the Act as a whole, with regard to personal data which is required to be exempt for the purposes of safeguarding national security.

Generally, therefore, the police and all Government departments are covered by the Act and have to register and observe the requirements of the Act like anyone else.

Nigel Waters
Assistant Registrar, Data Protection Register, Wilmslow

Thank you for the correction. However, the two exemption clauses you cite where police can refuse to reveal data would seem (to a hopeless cynic like myself) to be fairly open to abuse since they cover just about all of the police force's operations. Should the police choose to be uncooperative, I wouldn't have much confidence in being able to get anything more than a list of parking offences out of them.

EXIT

THE DATA PROTECTION ACT 1984

 THE DATA PROTECTION REGISTER

QUESTIONS
and ANSWERS
on the Act (1-20)

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